



Egészségügyi Szakkönyvtár

Gastrointestinális traktus képalkotó diagnosztikája

Gyermekradiológia

Intervallum emlőrák szűrése

Intervenciós radiológia

Neuroradiológia

**Ajánló bibliográfia
1994-2005**

Készítette: Beke Gabriella

Schmidtné Farkas Mária

Gastrointestinális traktus képalkotó diagnosztikája

1999

1. **Jolesz A. Ferenc - Bajzik Gábor - Schreyer, Andreas, et al.**
A virtuális endoscopia és alkalmazási lehetőségei.
In: Endoscopia és minimálisan invazív terápia. - 1999. 2. évf. 3. sz., p. 43-49.
2. **Palkó András - Kardos Lilla - Fedinecz Nikol, et al.**
Bél-modell a gyomor-bél traktus CT vizsgálatához alkalmazott kontrasztanyagok értékelésére.
In: Magyar radiológia. - 1999. 73. évf. 2. sz., p. 47-49.

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3. **Bitvai Katalin**
A gasztrointesztinális traktus vizsgálata csecsemőkorban
In: Gyermekorvos Továbbképzés. - 2003. 2. évf. 4. sz., p. 211-215.
4. **Cai Q. Baumgarten DA. Affronti JP, et al.**
Incidental findings of thickening luminal gastrointestinal organs on computed tomography: An absolute indication for endoscopy.
In: American Journal of Gastroenterology. Vol. 98(8)(pp 1734-1737), 2003.
Abstract
OBJECTIVE: Incidental findings of thickened luminal GI organs (LGIO) on CT are not uncommon. However, the significance of these findings is unclear. Because of the lack of scientific data, there are no clinical guidelines for the evaluation of these radiologic abnormalities. Our objective was to determine whether endoscopic evaluation of these findings revealed significant abnormalities. METHODS: This study evaluated all incidental findings of thickened LGIO in a large medical center from October, 1997 to March, 1999 that were followed by endoscopic examinations. RESULTS: Ninety-six percent of patients with incidental findings of thickening of the sigmoid colon or rectum, 81% of patients with thickening of the distal esophagus, and 13% of patients with thickening of the cecum had significant abnormalities on further endoscopic work up. CONCLUSIONS: Although positive pathologic findings are less common in thickening of the cecum than in other LGIO, all of these incidental findings on CT warrant further endoscopic examination.
5. **Caronna R. Catinelli S. Di Martino M., et al.**
Acute abdomen in a 15-year-old patient with Peutz-Jeghers syndrome: Surgical approach.
In: Minerva Chirurgica. Vol. 58(1)(pp 101-104), 2003.
Abstract
The natural history of Peutz-Jeghers syndrome (PJS) is characterized by gastrointestinal complications (occlusion, invagination or bleeding), often the first clinical manifestation in young patients. Surgical treatment consists of treating the complication, exploring the bowel and cleaning out all polyps to prevent further emergency operations at brief intervals. For this purpose both the laparotomic and laparoscopic approaches have been proposed, especially in young patients. A 15-year-old girl was admitted for investigation of colicky abdominal pains. When she was 5 years old, PJS was diagnosed. On admission to our department, the patient underwent emergency esophagogastroduodenoscopy and colonoscopy, both negative. At 24 hours after admission peritonitis developed. Given her clinical history, we rejected the laparoscopic approach proposed at admission and decided for an open laparotomy. Laparotomy disclosed a long jejunoileal invagination that caused irreversible ischemic damage of the bowel. We resected about 130 cm of the ileum and did an end-to-end ileo-ileal anastomosis. Meticulous palpation and transillumination of the residual bowel identified no other polyps. In young patients with acute abdomen and with proven or suspected PJS instead of laparoscopy, open laparotomy is a unique occasion to explore the residual bowel thoroughly, manually and, if possible, endoscopically.
6. **Classen M. Roesch T.**
Burning issues in gastrointestinal endoscopy at the start of the new millenium.
In: Endoscopy. Vol. 35(1)(pp 2-8), 2003.



7. **Fleischmann D.**

Multiple detector-row CT angiography of the renal and mesenteric vessels.
In: European Journal of Radiology. Vol. 45(SUPPL. 1)(pp S79-S87), 2003.

Abstract

Computed tomography angiography (CTA) of the abdomen with multiple detector-row computed tomography (MD-CT) is an effective technique for minimally invasive imaging of the renal arteries and the visceral vasculature. This article reviews the clinical and technical aspects of MD-CT angiography in terms of image acquisition and reconstruction parameters, contrast medium application, and three-dimensional visualization with special attention to renal and mesenteric vascular imaging. Because of its high sensitivity to detect renal artery stenosis on the one hand, and because a normal renal CTA virtually excludes the presence of a significant renal artery stenosis on the other hand, renal CTA plays a useful role in the management of patients with suspected renovascular hypertension. Mesenteric CTA is a useful tool for visualizing normal vascular anatomy and its variants - particularly in the setting of organ transplantation. Vascular pathology, e.g. atherosclerotic disease (abdominal angina), or aneurysms of the visceral arteries are reliably assessed with CTA. Mesenteric CTA is an invaluable adjunct to abdominal CT in the setting of abdominal emergencies, because of its ability to detect the causes of acute intestinal ischemia (superior mesenteric artery embolism or thrombosis, superior mesenteric vein thrombosis). Accurate timing of the CTA acquisition and the subsequent parenchymal phase acquisition relative to the contrast medium transit time is critical to obtain excellent image quality in double-pass abdominal CT acquisitions.

8. **Frappaz D. Chinot O. Bataillard A., et al.**

Summary version of the standards, options and recommendations for the management of adult patients with intracranial glioma (2002).

In: British Journal of Cancer. Vol. 89(SUPPL. 1)(pp S73-S83), 2003.

9. **Garcia-Velasco A. Gomez-Escalonilla C. Guerra-Vales JM., et al.**

Intestinal pseudo-obstruction and urinary retention: Cardinal features of a mitochondrial DNA-related disease.

In: Journal of Internal Medicine. Vol. 253(3)(pp 381-385), 2003.

Abstract

The syndrome of mitochondrial myopathy, encephalopathy, lactic acidosis and stroke-like episodes (MELAS) is a multisystemic disorder associated in most of the patients with an A to G transition at nucleotide position 3243 in the transfer RNA (tRNA)^{Leu(UUR)} (A3243G) of the mitochondrial DNA. This syndrome is characterized by the preponderant involvement of skeletal muscle and central nervous system, but urinary or gastrointestinal symptoms are seldom documented. Here we report an unusual case of a 52-year-old woman with a clinical phenotype characterized by encephalopathy, left hemiparesis, urinary retention and gastrointestinal pseudo-obstruction. She had the classical A3243G mitochondrial DNA point mutation of MELAS syndrome. We also present a clinically heterogeneous multigenerational pedigree with several affected members in the maternal lineage.

10. **Hirooka Y. Itoh A. Hashimoto S., et al.**

Present situation of EUS-FNAB in our institute and future appropriate direction of this procedure in Japan.

In: Digestive Endoscopy. Vol. 15(SUPPL.)(pp S51-S58), 2003.

Abstract

We describe the present view of performing diagnostic endoscopic ultrasonography guided fine needle aspiration biopsy (EUS-FNAB). In the pancreatic diseases, our application of EUS-FNAB for pancreatic disease has been as follows: as to the operable cases, EUS-FNAB should not be performed through any pathway penetrating the duodenum and the stomach. EUS-FNAB is contraindicated in cystic diseases. As to the cases diagnosed as inoperable with various imaging modalities, EUS-FNAB should be performed to obtain the pathological evidence. In gastrointestinal disorders, all intramural diseases are appropriate indications for this procedure. Even if the target lesion is in the far oral part of the large intestine, we perform EUS-FNAB by the special method described in this paper. Lymphadenopathy for appropriate cases is one of the best cases in which to perform EUS-FNAB. Mediastinal lymph node metastasis influences the treatment plan of lung cancer; the application of this treatment is increasing in our institute.



11. **Kilborn TN. Teh J. Goodman TR.**
Paediatric manifestations of Langerhans cell histiocytosis: A review of the clinical and radiological findings.
In: Clinical Radiology. Vol. 58(4)(pp 269-278), 2003.
Abstract
Langerhans cell histiocytosis is a rare disease in children. However, its ability to present in many ways, to mimic other conditions, and to manifest itself in many organs makes it a fascinating disease for radiologists. This article reviews the history of the disease, the features that are most useful in determining prognosis, and the various radiological findings seen in paediatric patients.
12. **Metcalfe MS. Maddern GJ.**
Laparoscopic staging of upper gastrointestinal malignancy.
In: ANZ Journal of Surgery. Vol. 73(10)(pp 782-783), 2003.
13. **Mortele KJ. Banks PA. Silverman SG.**
State-of-the-art imaging of acute pancreatitis.
In: Journal Belge de Radiologie. Vol. 86(4)(pp 193-208), 2003.
Abstract
The purpose of this essay is to focus on the characteristic imaging features, as revealed by a variety of radiological modalities, which allow for an accurate diagnosis and staging of acute pancreatitis. In addition, emphasis will be made on the role of imaging in providing early prognostic information about the outcome of the disease.
14. **Naumovski J. Simova N. Janevik-Ivanovska E., et al.**
Scintigraphic detection of peptic lesions with the method of radiolabelled sucralfate.
In: Radiology & Oncology. Vol. 37(1), 2003.
Abstract
Background. Sucralfate is an antiulcer agent that after peroral application strongly adheres to mucosal defects and in that way provides a protective barrier to further damage from acid and pepsin. If radiolabelled with a gamma isotope, it could be detected under a gamma camera pointing lesions to which it adhered. With the aim to confirm a suitable noninvasive method for investigation of caustic lesions of the upper gastrointestinal tract we evaluated in a preliminary study the validity of the radiolabelled Sucralfate scintigraphy in detection of peptic disease. Patients and methods. With that purpose, 35 patients after an endoscopic examination underwent scintigraphy with Tc-99m-DTPA sucralfate. Patients were divided in two groups: a group of 20 patients with endoscopic confirmed peptic disease and a control group of 15 persons who had not any disease of the upper gastrointestinal tract. Results. Using the test for clinical evaluation of a new method, the scan showed sensitivity of 75%, specificity of 100% and accuracy of 85.7%. Conclusions. Scintigraphy with Tc-99m-DTPA Sucralfate promoting it as an additional method, complementary to routine investigations in detecting mucosal lesions.
15. **Okada Y. Ohtomo K.**
Abdominal Computed Tomography Manifestation of Multiple-Organ-System Disorders.
In: Radiologist. Vol. 10(6)(pp 309-321), 2003.
Abstract
Many multiple-organ-system diseases show specific abnormalities in the abdomen, which may be an important diagnostic clue or even the first manifestation of the condition. Computed tomography is particularly useful for complete workup of diverse abdominal organs. This article reviews the abdominal computed tomography findings in metabolic diseases (diabetes, hemochromatosis), hereditary multisystem disorders (von Hippel-Lindau disease, tuberous sclerosis, autosomal-dominant polycystic kidney disease, neurofibromatosis, Ehlers-Danlos syndrome), connective tissue diseases (systemic lupus erythematosus, progressive systemic sclerosis, polyarteritis nodosa), and other acquired inflammatory conditions (sarcoidosis, Behçet disease).
16. **Palazzo L.**
Which are the recognized indications of EUS fine needle aspiration?
In: Acta Endoscopica. Vol. 33(1)(pp 17-29), 2003.

17. **Schneider G. Uder M.**

Contrast-Enhanced Magnetic Resonance Body Imaging.

In: Topics in Magnetic Resonance Imaging. Vol. 14(5)(pp 403-425), 2003.

Abstract

Many new techniques and applications in magnetic resonance imaging of the body have been introduced in the last decade and, at the same time, a wide variety of contrast media have become available for different imaging strategies. The aim of this article is to review the current use of contrast agents in body MRI. Extracellular and hepatobiliary gadolinium chelates, as well as iron oxide-based contrast media, are discussed and their use in different areas of the body highlighted. Topics to be covered include breast imaging, imaging of the thorax and the mediastinum, and imaging of the upper abdomen, kidneys, and pelvis. Established applications as well as new emerging indications are discussed, and the impact on improved detection and characterization of pathologies is demonstrated.

18. **Shim CS. Cho YD. Kim JO.**

Present status, education and training for endoscopic ultrasonography in Korea.

In: Digestive Endoscopy. Vol. 15(SUPPL.)(pp S47-S50), 2003.

19. **Stevens DA. Moss RB. Kurup VP., et al.**

Allergic Bronchopulmonary Aspergillosis in Cystic Fibrosis - State of the Art: Cystic Fibrosis Foundation Consensus Conference.

In: Clinical Infectious Diseases. Vol. 37(SUPPL. 3)(pp S225-S264), 2003.

Abstract

Because of the difficulties of recognizing allergic bronchopulmonary aspergillosis (ABPA) in the context of cystic fibrosis (because of overlapping clinical, radiographic, microbiologic, and immunologic features), advances in our understanding of the pathogenesis of allergic aspergillosis, new possibilities in therapy, and the need for agreed-upon definitions, an international consensus conference was convened. Areas addressed included fungal biology, immunopathogenesis, insights from animal models, diagnostic criteria, epidemiology, the use of new immunologic and genetic techniques in diagnosis, imaging modalities, pharmacology, and treatment approaches. Evidence from the existing literature was graded, and the consensus views were synthesized into this document and recirculated for affirmation. Virulence factors in *Aspergillus* that could aggravate these diseases, and particularly immunogenetic factors that could predispose persons to ABPA, were identified. New information has come from transgenic animals and recombinant fungal and host molecules. Diagnostic criteria that could provide a framework for monitoring were adopted, and helpful imaging features were identified. New possibilities in therapy produced plans for managing diverse clinical presentations.

20. **Tunnell JW. Haka AS. McGee SA., et al.**

Diagnostic tissue spectroscopy and its applications to gastrointestinal endoscopy.

In: Techniques in Gastrointestinal Endoscopy. Vol. 5(2)(pp 65-73), 2003.

Abstract

Optical spectroscopic methods are playing an increasingly important role in medicine, and gastrointestinal endoscopy is likely to be one of the most important areas of impact of the new technology. This article will familiarize endoscopists with basic technologies of diagnostic spectroscopies, discuss the types of information they provide, and describe how they can be incorporated in endoscopic instruments. The discussion focuses on 4 fundamental light-tissue interactions: elastic scattering, absorption, fluorescence, and Raman scattering. The physical basis of each technique and its mode of implementation in endoscopic applications are presented. We discuss the limitations and advantages of each technique, as well as research that uses spectroscopic approaches for the diagnosis of gastrointestinal disease. Finally, we discuss future directions in spectral diagnostic endoscopy.

21. **Wand GS.**

Diagnosis and management of hyperprolactinemia.

In: Endocrinologist. Vol. 13(1)(pp 52-57), 2003.

Abstract

Hyperprolactinemia is a common disorder that occurs in both men and women. It is typically caused by a prolactin (PRL)-secreting microadenoma. However, other pathologic and physiologic processes and pharmacologic agents may cause hyperprolactinemia. Diagnostic



imaging is recommended when physiologic and pharmacologic causes of excessive PRL secretion are excluded. Therapeutic goals for hyperprolactinemia include resolution of symptoms and normalization of PRL concentrations. If a tumor is present, goals also include tumor mass reduction. Pharmacotherapy with dopamine agonists is the treatment of choice, even in patients with macroprolactinomas. These agents are able to resolve galactorrhea, promote the resumption of menses, and reverse hypogonadism; in many cases, they also reduce tumor size. Currently, two medications are US Food and Drug Administration (FDA) approved for the treatment of hyperprolactinemia. Bromocriptine requires twice-daily dosing, and cabergoline requires once- or twice-weekly dosing. Surgery is considered second-line therapy for prolactinoma in patients who fail or cannot tolerate dopamine agonist therapy.

22. **Wilder JL. Pavlik E. Straughn JM., et al.**

Clinical implications of a rising serum CA-125 within the normal range in patients with epithelial ovarian cancer: A preliminary investigation.

In: Gynecologic Oncology. Vol. 89(2)(pp 233-235), 2003.

Abstract

Objective. The goal of this study was to determine the clinical implications of a progressively rising serum CA-125 level in the normal (< 35 U/ml) range in ovarian cancer patients with complete response to therapy. **Methods.** A multi-institutional investigation was undertaken to identify patients with CA-125-producing epithelial ovarian cancers who experienced progressively rising antigen levels in the normal (<35 U/ml) range after completion of therapy. All patients had (1) histologic documentation of epithelial ovarian cancer and (2) complete clinical remission (CR) as defined by negative imaging studies, normal clinical examination, and a normal (<35 U/ml) serum CA-125 value. All patients had serum CA-125 determinations at 1- to 3-month intervals after treatment. A rising serum CA-125 level was defined as a progressive increase in at least three CA-125 values above the coefficient of variation (CV) for the assay. No patient had a known episode of pelvic or gastrointestinal inflammatory disease during the period when the progressive rise in serum CA-125 took place. **Results.** Eleven patients with rising serum CA-125 levels in the normal range were identified. Original stage of disease was as follows: stage IIA, 1; stage IIIC, 10. Cell type was as follows: endometrioid adenocarcinoma, 4; serous adenocarcinoma, 6; clear cell carcinoma, 1. Of the 11 patients identified, all developed recurrent ovarian cancer. Tumor recurrence was documented either by new lesions appearing on imaging studies (6/11) or by histologic confirmation (5/11). The mean time from CR to recurrence was 21 months (median = 22, range = 12-33). The mean time from the third early rising serum CA 125 value to clinical or radiographic confirmation of recurrence was 189 days (range = 84-518). All recurrences were intraabdominal with the exception of one axillary recurrence. **Conclusion.** In patients with a history of ovarian cancer, three progressively rising serum CA-125 values in the normal range (< 35 U/ml) at 1- to 3-month intervals are associated with a high likelihood of tumor recurrence. Patients with such a pattern should undergo immediate investigation to rule out and/or identify recurrent cancer.

2004

23. **Ajaj W. Goehde SC. Schneemann H., et al.**

Dose optimization of mannitol solution for small bowel distension in MRI.

In: Journal of Magnetic Resonance Imaging. Vol. 20(4)(pp 648-653), 2004.

Abstract

Purpose: To optimize the dose of a hydro solution containing 2.5% mannitol and 0.2% locust bean gum (LBG) for small bowel MRI in terms of bowel distension and patient acceptance. **Materials and Methods:** A total of 10 healthy volunteers ingested a hydro solution containing 2.5% mannitol and 0.2% LBG. Four different volumes (1500, 1200, 1000, and 800 ml) were assessed on four different examination days. Small bowel distension was quantified on coronal two-dimensional TrueFISP images by measuring the diameter of eight bowel loops throughout the jejunum and the ileum. In addition, volunteer acceptance was evaluated for every single examination by using a questionnaire. **Results:** Optimal distension was obtained with either, 1000, 1200, or 1500 ml, with no statistically significant differences in distension between these groups. Administration of 800 ml led to significantly less distension of the small bowel. Significantly less side effects were noted using either 800 or 1000 ml compared to using larger volumes. **Conclusion:** We recommend a dose of 1000 ml mannitol/LBG solution as an oral contrast agent for optimal bowel distension and minimal side effects.



24. **Cash BD. Chey WD.**

Review article: Irritable bowel syndrome - An evidence-based approach to diagnosis.

In: Alimentary Pharmacology & Therapeutics. Vol. 19(12)(pp 1235-1245), 2004.

Abstract

Irritable bowel syndrome (IBS) represents one of the most common reasons for primary care visits and consultation with a gastroenterologist. It is characterized by abdominal discomfort, bloating and disturbed defecation in the absence of any identifiable physical, radiologic or laboratory abnormalities indicative of organic gastrointestinal disease. IBS is a costly disorder, responsible for significant direct and indirect costs to patients and society. Much of the cost attributed to IBS arises from the time and resources used to establish the diagnosis.

Historically IBS has been viewed by many as a diagnosis of exclusion rather than as a primary diagnosis, and many patients with typical symptoms will undergo an extensive array of diagnostic tests and procedures prior to the eventual diagnosis of IBS. Recent reviews addressing the management of such patients have cast doubt on the necessity for this degree of testing. Current best evidence does not support the routine use of blood tests, stool studies, breath tests, abdominal imaging or lower endoscopy in order to exclude organic gastrointestinal disease in patients with typical IBS symptoms without alarm features. Serological testing for celiac sprue in this population may eventually prove useful but validation of studies indicating an increased prevalence of this disease in patients with suspected IBS is needed. The development and refinement of symptom-based criteria defining the clinical syndrome of IBS has greatly facilitated the diagnosis of this condition, which can be confidently diagnosed through the identification of typical symptoms, normal physical examination and the exclusion of alarm features. The presence of alarm features or persistent non-response to symptom-directed therapies should prompt a more detailed diagnostic evaluation dictated by the patient's predominant symptoms.

25. **Dolwani S. Metzner M. Wassell JJ., et al.**

Diagnostic accuracy of faecal calprotectin estimation in prediction of abnormal small bowel radiology.

In: Alimentary Pharmacology & Therapeutics. Vol. 20(6)(pp 615-621), 2004.

Abstract

Background: Patients being investigated for symptoms of abdominal pain, diarrhoea and or weight loss often undergo small bowel radiology as part of their diagnostic workup mainly to exclude inflammatory bowel disease. Aim: To assess and compare the utility of a single faecal calprotectin estimation to barium follow through as well as conventional inflammatory markers such as erythrocyte sedimentation rate and C-reactive protein in exclusion of intestinal inflammation. Methods: Seventy-three consecutive cases undergoing barium follow through for investigation of symptoms of diarrhoea and or abdominal pain with or without weight loss were studied. The control group comprised 25 cases with known active Crohn's disease (positive controls), 26 normal healthy volunteers (negative controls) and 25 cases of irritable bowel syndrome diagnosed by Rome II criteria. Symptoms, erythrocyte sedimentation rate and C-reactive protein were recorded at recruitment and a single stool sample assayed for calprotectin within 7 days prior to or after barium follow through. Results: The median calprotectin value in the active Crohn's group, irritable bowel syndrome group and normal volunteers was 227 [mu]g/g of stool, 19 and 10 [mu]g/g respectively ($P < 0.0001$). A faecal calprotectin above a cut-off value of 60 [mu]g/g was able to predict all nine cases with an abnormal barium follow through as well as all six cases with a normal barium follow through but with organic intestinal disease. The negative predictive value of a single calprotectin result below 60 [mu]g/g of stool was 100% compared with 91% each for erythrocyte sedimentation rate > 10 mm and C-reactive protein > 6 mg/L and 84% for a combination of erythrocyte sedimentation rate and C-reactive protein in predicting absence of organic intestinal disease. Conclusion: A single stool calprotectin value < 60 [mu]g/g of stool obviates the need for further barium radiology of the small bowel, is more accurate than measurement of erythrocyte sedimentation rate or C-reactive protein and effectively excludes Crohn's disease or non-functional gastrointestinal disease.

26. **Doshi RR. Qu JZ.**

Preoperative and postoperative anesthetic assessment for pediatric cardiac surgery patients.

In: International Anesthesiology Clinics. Vol. 42(4)(pp 1-13), 2004.



27. **EI-Matary W. Barnard I. Cameron D.**
Gastric perforation and transillumination [6].
In: Archives of Disease in Childhood Fetal & Neonatal Edition. Vol. 89(4)(pp F375), 2004.
28. **Fangusaro J. Klopfenstein K. Groner J., et al.**
Inflammatory myofibroblastic tumor following hematopoietic stem cell transplantation: Report of two pediatric cases.
In: Bone Marrow Transplantation. Vol. 33(1)(pp 103-107), 2004.
Abstract
Inflammatory myofibroblastic tumors are benign neoplasms histologically composed of lymphocytes, histiocytes, macrophages, foam cells, and plasma cells among a spindle-shaped stroma. Their etiology and potential for metastatic spread is controversial. Numerous predisposing factors have been suggested, including preceding infections, radiotherapy, and local trauma. We present two cases of pseudotumors that developed in children following hematopoietic stem cell transplantation. These are the first cases after hematopoietic transplant reported in the literature. As these neoplasms are difficult to diagnose and are often confused with highly aggressive tumors, our cases demonstrate that a high index of suspicion for such lesions must be maintained when evaluating masses in post transplant patients.
29. **Halter JM. Baesi T. Nicolette L., et al.**
Common gastrointestinal problems and emergencies in neonates and children.
In: Clinics in Family Practice. Vol. 6(3)(pp 731-754), 2004.
Abstract
The approach to the child with a surgical GI problem should include a thorough history and physical examinations, followed by appropriate laboratory and imaging studies. An understanding of anatomy and in some cases embryology can be helpful in establishing an accurate diagnosis. Early surgical consultation should be the rule because some of these problems rapidly become life threatening.
30. **Huang G-T. Liang J-D. Sheu J-C.**
Current role of local ablative treatments for hepatocellular carcinoma.
In: Journal of the Formosan Medical Association. Vol. 103(6)(pp 403-410), 2004.
Abstract
Due to modern diagnostic imaging and the sensitive alpha-fetoprotein test, small hepatocellular carcinoma can now be detected at an early stage. Studies have shown that surgical resection of the tumors is a valuable treatment. Local treatment under ultrasound guidance was initially considered as an alternative when patients' liver reserves were not good enough for surgical resection; however, this technique has been improved and the results indicate that its survival rate can compete with that of surgical resection. In follow-up studies of patients with small hepatocellular carcinoma, a 5-year survival of 60% has been achieved after percutaneous ethanol injection therapy. Percutaneous microwave coagulation therapy and percutaneous radiofrequency ablation therapy have been shown to have some advantages over percutaneous ethanol injection therapy, although the follow-up durations of these studies were not long enough. Percutaneous ethanol injection therapy, percutaneous microwave coagulation therapy and percutaneous radiofrequency ablation therapy have become the 3 most widely used techniques for the treatment of hepatocellular carcinomas that are less than 5 cm in diameter and have a tumor number less than 3. In general, a tumor size of 3 to 5 cm is a good candidate for radiofrequency ablation and a tumor size of 2 to 3 cm is suitable for radiofrequency ablation or microwave coagulation. If the tumor size is around 2 cm or less, microwave coagulation or ethanol injection is often chosen due to the relatively low cost and similar efficacy. Ethanol injection also has the advantage of needing only a fine needle for injection. Informed selection of the appropriate technique, or combining a technique with transcatheter hepatic arterial embolization according to the tumor size and number, might provide the most effective treatment and achieve better results for hepatocellular carcinoma, even if the liver reserve is not good. However, large-scale, randomized, controlled trials are required before a definitive conclusion can be reached.
31. **Inui K. Yoshino J. Nakamura Y, et al.**
A newly developed electronic 360degrees radial scanning echoendoscope.
In: Digestive Endoscopy. Vol. 16(SUPPL. 2)(pp S240-S244), 2004.
Abstract

Background: Development of an electronic radial scanning echoendoscope has been anticipated, because radial scanning images readily demonstrate features of anatomy while electronic scanning provides information about blood flow. Here we present images obtained with a newly developed 360[degrees] radial scanning electronic echoendoscope and consider its utility. Methods: Using an electronic radial scanning echoendoscope, developed in 2003, the XGF-UE240-AL5, B-mode images were obtained at 5, 6, 7.5, and 10 MHz, while tissue harmonic images at 3.75 and 5 MHz; color Doppler and power Doppler functions also were used. Images obtained by the new echoendoscope were compared with those obtained by a conventional echoendoscope. We performed contrast-enhanced endoscopic ultrasonography (EUS) with a galactose-based contrast agent in patients with pancreatobiliary diseases. Results: Images at all frequencies and with the Doppler mode were excellent, being more clear than images obtained with a mechanical radial echoendoscope. Gastric wall structure, cystic areas, and tumor contours were visualized more clearly at 3.5 and 5 MHz by tissue harmonic imaging than by mechanical radial scanning echoendoscope, or by ordinary imaging with the electronic radial scanning echoendoscope. Contrast-enhanced EUS should be helpful in hemodynamic analysis of gastrointestinal tumors. Conclusions: The electronic radial echoendoscope provides improved images and is highly useful for detailed diagnosis of digestive diseases.

32. **Malagelada J-R.**

Gastrointestinal motility and perception disorders re-visited.

In: Revista Espanola de Enfermedades Digestivas. Vol. 96(7)(pp 477-483), 2004.

33. **Malviya S. Voepel-Lewis T. Tait AR., et al.**

Pentobarbital vs chloral hydrate for sedation of children undergoing MRI: Efficacy and recovery characteristics.

In: Paediatric Anaesthesia. Vol. 14(7)(pp 589-595), 2004.

Abstract

Background: Chloral hydrate (CH) sedation for magnetic resonance imaging (MRI) is associated with significant failure rates, adverse events and delayed recovery. Pentobarbital (PB), reportedly produces successful sedation in 98% of children undergoing diagnostic imaging. This study compared the efficacy, adverse events and recovery characteristics of CH vs PB in children undergoing MRI. Methods: With Institutional Review Board approval and written consent, children were randomly assigned to receive intravenous (i.v.) PB (maximum 5 mg[middle dot]kg⁻¹ in incremental doses) or oral CH (75 mg[middle dot]kg⁻¹) prior to MRI. Sedation was augmented with 0.05 mg[middle dot]kg⁻¹ doses of i.v. midazolam (maximum 0.1 mg[middle dot]kg⁻¹) as necessary. Adverse effects, including hypoxaemia, failed sedation, paradoxical reactions and behavioural changes, the return of baseline activity, and parental satisfaction were documented. The quality of MRI scans was evaluated by a radiologist blinded to the sedation technique. Results: PB facilitated an earlier onset of sedation (P = 0.001), higher sedation scores (P = 0.01), and less need for supplemental midazolam compared with CH. Severe hypoxaemia occurred in two children (6%) in the PB group. Fourteen per cent of the PB group experienced a paradoxical reaction, 9% sedation failure and 11% major motion artefact, compared with 0% (P = 0.05), 3 and 2% (P = NS), respectively, in the CH group. CH and PB were both associated with a high incidence of motor imbalance, and agitation. However, children who received PB had a slower return to baseline activity (P = 0.04). Conclusions: Although PB facilitated a quicker sedation onset and reduced the requirement for supplemental sedation, it produced a higher incidence of paradoxical reaction and prolonged recovery with a similar failure rate compared with CH.

34. **Margulis AR. Auh YH. Gagner M.**

Oral use of gadopentetate dimeglumine for anastomotic leak in patients with iodine sensitivity
In: Radiology. Vol. 232(3)(pp 937), 2004.

35. **Mousavi S. Nobahar M. Vafaei AA., et al.**

Complications of upper gastrointestinal endoscopy in unsedated patients

In: Indian Journal of Gastroenterology. Vol. 23(5)(pp 193), 2004.

36. **Rajeswaran C. Dawson A. Bonney G., et al.**

Intussusception as a gastrointestinal complication of diabetes: Case report and literature



review.

In: British Journal of Diabetes & Vascular Disease. Vol. 4(6)(pp 408-413), 2004.

Abstract

This is the first reported case of intussusception in a patient with type 1 diabetes mellitus complicated by gastroparesis and autonomic neuropathy. Literature on the reported cases of intussusception in patients with diabetes, its aetiopathology and possible association with gastroparesis has been systematically reviewed following a Medline database search (1951 to June 2003) Intussusception should be considered in the differential diagnosis of gastrointestinal symptoms in diabetic patients presenting with hyperglycaemia.

37. Stonesifer E.

Common laboratory and diagnostic testing in patients with gastrointestinal disease.

In: AACN Clinical Issues. 15(4):582-94, 2004.

Abstract

Evaluating patients with gastrointestinal (GI) illness involves the use of many different diagnostic modalities, including laboratory studies, diagnostic imaging, and endoscopy. Rapid advances in all three areas have provided clinicians with a wide array of testing at their fingertips. The frequent challenge in evaluating a patient is deciding which testing will lead to a diagnosis in the most direct and efficient manner. This article reviews many of the tests that are considered in the evaluation of individuals with complaints referable to the GI tract.

38. Wang H-S. Misra UK. Kalita J.

Comparison of magnetic resonance imaging abnormalities in Japanese encephalitis and acute necrotizing encephalopathy of childhood [2] (multiple letters).

In: Archives of Neurology. Vol. 61(7)(pp 1149-1150), 2004.

39. Wang TD. Van Dam J.

Optical biopsy: A new frontier in endoscopic detection and diagnosis.

In: Clinical Gastroenterology & Hepatology. Vol. 2(9)(pp 744-753), 2004.

Abstract

Endoscopic diagnosis currently relies on the ability of the operator to visualize abnormal patterns in the image created by light reflected from the mucosal surface of the gastrointestinal tract. Advances in fiber optics, light sources, detectors, and molecular biology have led to the development of several novel methods for tissue evaluation in situ. The term 'optical biopsy' refers to methods that use the properties of light to enable the operator to make an instant diagnosis at endoscopy, previously possible only by using histological or cytological analysis. Promising imaging techniques include fluorescence endoscopy, optical coherence tomography, confocal microendoscopy, and molecular imaging. Point detection schemes under development include light scattering and Raman spectroscopy. Such advanced diagnostic methods go beyond standard endoscopic techniques by offering improved image resolution, contrast, and tissue penetration and providing biochemical and molecular information about mucosal disease. This review describes the basic biophysics of light-tissue interactions, assesses the strengths and weaknesses of each method, and examines clinical and preclinical evidence for each approach.

40. Ziegler CM. Seitz K. Leicht-Biener U., et al.

Detection of therapeutically relevant diagnoses made by sonography of the upper abdomen: Portable versus high-end sonographic units - A prospective study.

In: Ultraschall in der Medizin. Vol. 25(6)(pp 428-432), 2004.

Abstract

Aim: To compare the efficiency of a portable sonographic unit with a high-end unit used for sonographic examinations of the upper abdomen to detect therapeutically relevant diagnoses and to answer clinical questions. Methods: Over a period of five years, 575 patients were examined by four examiners as part of the daily routine work. Patients without known diagnoses were examined first with the portable SonoSite 180 system, with documentation of the findings and diagnoses, and immediately thereafter with the high-end Philips HDI 5000 system. Subsequently, any discrepant findings and diagnoses were recorded. The assessment was confined to therapy-demanding diagnoses and to the resolution of the clinical question (major findings) as well as to other therapeutically relevant findings (minor findings). Results: Of the 575 data sets (duplicated examinations), 574 could be evaluated. The major findings coincided in 447 (78%) of 574 cases and were discrepant in 121 (22%) cases in



which the major findings were solely detected with the high-end Philips HDI 5000 system and missed with the portable SonoSite(R) 180 system. Findings of the upper abdomen coincided in 252 (85%) of 297 cases and were undetectable with the portable unit in 44 (15%) cases. For 166 intestinal examinations, the proportion of coinciding major findings was 58% (96 of 166 cases), with 42% (71 of 166 cases) overlooked with the portable unit. For examinations of the pleura, the findings coincided in 99 (89%) of 111 cases. The findings of emergency examinations coincided in 138 (75%) of 185 cases, with 47 (25%) findings exclusively detected with the HDI 5000 system. In emergencies without intestinal involvement, the findings coincided in 105 (89%) of 118 cases. Conclusion: As expected, the high-end unit is markedly superior to the portable sonographic unit, especially for clinical questions requiring a high physical resolution, as needed for gastrointestinal structures, biliary system and pancreas. The portable unit provided its best results for examinations of the pleura and for emergency examinations as long as the gastrointestinal tract is excluded. For the routine use of portable sonographic units, it is important to know the limitation of the particular unit.

2005

41. **Sandrasegaran K. Rajesh A. Lall C. Gomez GA., et al.**
Gastrointestinal complications of bariatric Roux-en-Y gastric bypass surgery.
In: European Radiology. Vol. 15(2)(pp 254-262), 2005.
Abstract

Obesity is rapidly becoming the most important public health issue in USA and Europe. Roux-en-Y gastric bypass is now established as the gold standard for treating intractable morbid or super obesity. We reviewed the imaging findings following this surgery in 234 patients. In this pictorial essay we present the CT and upper gastrointestinal contrast study appearances of the expected postoperative anatomy as well as a range of abdominal complications. The complications are classified into leaks, fistula and obstruction. Postoperative gastric outlet and small bowel obstruction can be caused by anastomotic stenosis, mesocolic tunnel stenosis, adhesions, stomal ulcer, obturation, intussusception and internal or external hernia. Small bowel obstruction may be of a simple, closed loop and/or strangulating type. The radiologist should be able to diagnose the type and possible cause of obstruction.

Gyermekradiológia

1994

42. **Vigváry Zoltán - Kónya András**
Az intervenciós radiológia lehetőségei gyermekkorban.
In: Orvosi Hetilap . - 1994. 135. évf. 41. sz, p. 2243-2251.

A survey of therapeutic possibilities offered by pediatric interventional radiology is given. Authors emphasize that the percutaneous interventional radiology procedures are performed either as an adjuvant treatment facilitating other (surgical) methods or as definite therapy replacing traditional treatment modalities. It is also stressed that interventional procedures are cost effective and relative less expensive than surgery, and they are not so cumbersome to the patients and can shorten the time for hospitalization significantly. Authors present 5 illustrative cases including locoregional chemotherapy and embolotherapy of liver tumors, transcatheter embolizations for a varicocele, an arteriovenous malformation and an aneurysmal bone cyst.

1997

43. **Lombay Béla - Hunyadi Katalin - Nagy Kálmán**
A képalkotó eljárások szerepe a Wilms-tumor diagnosztikájában és késői követésében
In: Gyermekgyógyászat - 1997. 48. évf. 5. sz., p. 525-530.

US, CT and MRI scans can determine the characteristic and extension of Wilms tumor with approximate accuracy and can help the clinicians in the tumor staging, and the discovery of distant metastases. Furthermore doubts and pitfalls of the imaging modalities, and the opportunities of the follow up are discussed.



44. **Milassin Péter. - Vörös Erika. - Kiss Marianna, et al.**
Középvonali craniofacialis dysraphiához társult rupturált dermoid tumor.
In: Magyar radiológia. - 1997. 71. évf. 3. sz., p. 65-67.
The authors report a case of midline craniofacial dysraphism associated with an interhemispheric lipoma, an azygos pericallosal artery and a ruptured dermoid, which was symptomatic and was removed surgically. Our case is thought to be of great interest, because midline craniofacial dysraphism associated with dermoid has not been reported in the literature so far.
45. **Urbanek Krisztina**
Mellkas CT- és MRI-vizsgálatok indikációi gyermekkorban, szerepük a daganatos betegségek diagnosztikájában
In: Magyar radiológia. - 1997. 71. évf. 5. sz., p. 131-137.
CT and MRI findings of 34 children with thoracic tumors were assessed. The indication and method of these diagnostic modalities and the tumor morphology on the basis of own experiences and the current literature are discussed.

1999

46. **Lombay Béla**
Képpalkotó eljárások a gyermekgyógyászati diagnosztikában: múlt - jelen - jövő.
In: Gyermekgyógyászati Szemle. - 1999. 4. évf. 6. sz., p. 231-233.

2003

47. **Kis Éva**
Gyermekradiológia az ezredfordulón.
In: Gyermekorvos továbbképzés. - 2003. 2. évf. 4. sz., p. 199-200.
48. **Lombay Béla**
Gyermekradiológia.
In: Magyar radiológia. - 2003. 77. évf. 5. sz., p. 212-213.
49. **Magyar Gyermekaneszteziológiai és Intenzív Terápiás Társaság (test. szerz.). - Aneszteziológiai és Intenzív Terápiás Szakmai Kollégium (test. szerz.).**
Módszertani ajánlás a csecsemő- és kisgyermekkorban végzendő mágneses képpalkotó vizsgálatokhoz szükséges anesztézia körülményeinek rendezéséhez.
In: Gyermekgyógyászat. - 2003. 54. évf. 1. sz., p. 67-69.
50. **Rudas Gábor**
Neuroradiológiai vizsgálatok csecsemő- és gyermekkorban.
In: Gyermekorvos továbbképzés. - 2003. 2. évf. 4. sz., p. 201-205.

2005

51. **Browning JG. Reed MJ. Wilkinson AG., et al.**
Imaging infants with head injury: Effect of a change in policy.
In: Emergency Medicine Journal. Vol. 22(1)(pp 33-36), 2005.
Abstract
Objective: Head injury is one of the commoner injuries presenting to the emergency department (ED). Infants are hard to assess clinically and emphasis has been placed on radiological examination. Skull radiographs, however, are not a reliable indicator of intracranial injury. As a result of this the policy in this ED was revised so that skull radiographs were only to be performed in those infants less than 1 year with visible evidence of head injury or a suspicious history for non-accidental injury. Methods: Retrospective cohort study of all infants less than 1 year who presented with head trauma to the ED of a paediatric teaching hospital between 1 August 1998 and 31 July 1999, and between 1 August 2002 and 31 July 2003. Hospital notes and radiology computer systems were examined and data were collected and analysed. Results: 181 infants aged less than 1 year presenting to the ED in 1998/9 and 190 infants in 2002/3. Altogether 140 (77.3%) infants had a skull radiograph in 1998/9, five (3.6%) identified skull fractures. During 2002/3, 56 (29.5%) infants had a radiograph, a reduction of



47.5%, of which three (5.4%) had skull fractures. All fractures had reported haematomas to their scalp. The change in policy decreased the total radiation dose to the population by 9.4 mSv. No significant injuries were missed as a result of the change in policy. Interpretation: In infants under 1 year, unless non-accidental injury is suspected, it is suggested that skull radiographs should only be performed when there are visible signs of a head injury.

52. Davis PJC. Cox RM. Brooks J.

Training in neonatal cranial ultrasound: A questionnaire survey.
In: British Journal of Radiology. Vol. 78(925)(pp 55-56), 2005.
Abstract

A questionnaire was sent to every paediatric specialist registrar in the West Midlands to assess the training of paediatric specialist registrars in neonatal cranial ultrasound. 26% had never carried out supervised scans. 51% lacked confidence in performance and 57% in interpretation of scans. The current pattern of training in neonatal cranial ultrasound lacks structure, supervision and assessment of competency.

53. Ehrlich PF. McClellan WT. Wesson DE.

Monitoring performance: Longterm impact of trauma verification and review.
In: Journal of the American College of Surgeons. Vol. 200(2)(pp 166-172), 2005.
Abstract

This study documents how the verification process at a Level I pediatric trauma center affected patient care through changes in care indicators (CIs) from predesignation through four postverification time frames. An important component of any verification program is its effectiveness, not only at the time of verification but during the time between 'examinations.' To date, few data exist describing the interval periods and the progression and maturation of a trauma program after initial verification. Forty-seven distinct CIs were monitored monthly through data generated from the trauma registry. Six distinct time periods were identified. PRE (January, June, October 1997), trauma care without monitoring; VER (November 1999 to September 2000), preparation for verification; and four postverification periods: P1 (January to June 2001), P2 (July to December 2001), P3 (January to June 2002), and P4 (July to September 2002). Between 1997 and 2002, trauma admissions increased from 200 per year to 313 per year. Mortality rate and Injury Severity Score distributions remained unaltered. Statistically significant ($p < 0.05$) quantitative and qualitative changes were observed in numbers (percent) of patients reaching clinical criteria. These included prehospital, emergency department, and hospital-based trauma competencies. Trauma patient evaluation (including radiology) and disposition out of the emergency department (<120 minutes) improved in each study section and remained high during the postverification time period. There was a strong pair-wise correlation ($p < 0.005$, Cronbach alpha 0.8) between CNS charting and acquisition of head CAT scans. Pediatric ICU duration of stay increased in both the (summer) P2 and P4 time periods. Prehospital and emergency department fluid monitoring remained unsatisfactory. Statistically significant changes in patient care indicators were noted to improve during the trauma center designation process, and other key deficiencies were identified and addressed. Maintaining these improvements requires constant monitoring or performance may revert below accepted levels.

54. Eisenhuber E. Schima W. Stadler A., et al.

Evaluation of swallowing disorders with videofluoroscopy in Austria: A survey.
In: European Journal of Radiology. Vol. 53(1)(pp 120-124), 2005.
Abstract

Aim: The aim of our study was to assess the availability of videofluoroscopy to examine patients with swallowing disorders in Austria. Materials and methods: A questionnaire was sent to the department heads of the radiology departments of all hospitals ($n=143$) and to all non-hospital-based radiologic practices ($n=226$) throughout Austria. The survey focused on the availability of videofluoroscopic swallowing studies and on the studies performed in patients with deglutition disorders. Results: The questionnaire was completed and returned by 134 of 143 radiology departments (94%) and 65 of 226 non-hospital-based radiologists (29%). Videofluoroscopic swallowing studies were performed in 38 of 134 radiology departments (28%) and in 21 of 65 practices (32%). The method is available in all nine Austrian states (100%) and 27 of 99 districts (27%). The number of examinations performed in different states ranged from 0.7 to 19 studies/10,000 population per year. The number of videofluoroscopic examinations per department or practice in the year 2001 ranged between 5 and 690 (median,



100 examinations). To 85% of videofluoroscopy units patients were referred from otorhinolaryngology/phoniatrics-logopedics, to 69% of videofluoroscopy units referrals were also from internal medicine, from neurology in 54%, and from pediatrics in 20%. Conclusion: Despite the widespread availability of videofluoroscopy throughout Austria, its use still varies largely between different states. The data show that in general there is a wide-spread demand for videofluoroscopic swallowing studies.

55. **Erhan B. Ulu MO. Gunduz B., et al.**

Pediatric spine and spinal cord injury in Istanbul: A retrospective analysis of 106 patients. In: Neurosurgery Quarterly. Vol. 15(1)(pp 21-24), 2005.

Abstract

This study provided a retrospective analysis of 106 pediatric patients 17 years of age or younger who incurred spinal cord injuries (SCIs) during the last decade in Istanbul. Data were retrieved from the medical records of the patients, who were admitted to Istanbul University's Cerrahpasa Medical Faculty and 70. Yil Physical Medicine and Rehabilitation Training Hospital from January 1992 to December 2002. The patients were evaluated with respect to demographic data, cause of injury, and level of injury as well as completeness of injury, radiologic findings, and mortality rate. The mean age of the patients was 12.67 ± 4.3 years, and the male-to-female ratio was 2:1. The most common cause of injury was motor vehicle accidents (41%), followed by falls from heights (33.6%), diving injuries (10.3%), and gunshot wounds (9.3%). The levels of injury, in descending order of frequency, were cervical (47.2%), thoracic (34.9%), and lumbar (12.3%). Complete and incomplete SCIs were seen in 55% and 45% of patients, respectively. SCIs without radiographic abnormalities were only seen in 1.9% of the patients in this series. The overall mortality rate was 9.4%. SCI caused by trauma is relatively uncommon in children, but the results may be catastrophic. This study aims to provide a statistical analysis of pediatric SCI cases admitted to our clinics and tries to estimate the situation in Turkey on the basis of the demographic features of Istanbul. The importance of preventive measures is also stressed.

56. **Fleming A.**

Whither the sonographic practitioner?

In: Journal of Ultrasound in Medicine. Vol. 24(3)(pp 394), 2005.

57. **Fricke BL. Racadio JM. Duckworth T., et al.**

Placement of peripherally inserted central catheters without fluoroscopy in children: Initial catheter tip position.

In: Radiology. Vol. 234(3)(pp 887-892), 2005.

Abstract

PURPOSE: To determine how often placement of peripherally inserted central catheters (PICCs) without imaging guidance results in an initially correct central venous catheter tip location. **MATERIALS AND METHODS:** This study was approved by the hospital's institutional review board, which waived the requirement for informed consent. In a children's hospital, 843 PICCs were placed in 698 patients (age range, 0 days to 26 years; mean, 6.9 years) during a 14-month study period. All PICCs were placed by a specialized team of PICC nurses and interventional radiology technologists in an angiography suite with the supervision of pediatric interventional radiologists. All catheters were threaded blindly to a previously estimated length by either a PICC nurse or a pediatric interventional radiologist, according to National Association of Vascular Access Networks guidelines, and the initial PICC tip location was then determined by means of spot fluoroscopy. PICC tips were regarded as central if they resided anywhere within the superior vena cava (SVC). All catheters were then manipulated with intermittent fluoroscopic guidance to achieve a final central position in the distal third of the SVC. A χ^2 test was used to compare initial and final PICC tip locations according to patient age, catheter size, accessed vein, and need for radiologist assistance. A t test was used to compare procedure time with and without radiologist assistance. **RESULTS:** Analysis included 843 consecutively placed pediatric PICCs, of which 723 (85.8%) had a noncentral initial PICC tip position and required additional manipulation. After catheter repositioning performed with intermittent fluoroscopic guidance, a final central PICC tip location was achieved in 760 PICCs (90.2%). **CONCLUSION:** Pediatric PICC placement without fluoroscopic guidance required catheter manipulation of initial PICC tip position in 723 cases (85.8%). PICC placement with fluoroscopic guidance is highly successful, and the



authors believe it is best performed in an angiography suite.

58. **Halsted MJ. Guluzian JK. Perry LA, et al.**
What is normal? A clinically useful reference collection of pediatric radiology cases created within a PACS.
In: Journal of the American College of Radiology. Vol. 2(2)(pp 189-192), 2005.

59. **Hoffer FA.**
Interventional radiology in pediatric oncology.
In: European Journal of Radiology. Vol. 53(1)(pp 3-13), 2005.

Abstract

There are many radiological interventions necessary for pediatric oncology patients, some of which may be covered in other articles in this publication. I will discuss a number of interventions including percutaneous biopsy for solid tumor and hematological malignancy diagnosis or recurrence, for the diagnosis of graft versus host disease after stem cell or bone marrow transplantation, and for the diagnosis of complications of immunosuppression such as invasive pulmonary aspergillosis. In the past, tumor localization techniques have been necessary to biopsy or resect small lesions. However improved guidance techniques have allowed for more precise biopsy and the use of thermal ablation instead of excision for local tumor control. A percutaneously placed radio frequency, microwave, laser or cryogen probe can ablate the primary and metastatic tumors of the liver, lung, bone, kidney and other structures in children. This is an alternative treatment for the local control of tumors that may not be amenable to surgery, chemotherapy or radiotherapy. I will also describe how chemoembolization can be used to treat primary or metastatic tumors of the liver that have failed other therapies. This treatment delivers chemotherapy in the hepatic artery infused with emboli to increase the dwell time and concentration of the agents.

60. **Kayser R. Mahlfeld K. Greulich M., et al.**
Spondylodiscitis in childhood: Results of a long-term study.
In: Spine. Vol. 30(3)(pp 318-323), 2005

Abstract

Study Design. Retrospective study to gather long-term data clinical, paraclinical, and radiographic data on nonoperatively managed cases of childhood spondylodiscitis. Objectives. To analyze and assess the clinical, laboratory, and radiologic findings in children with spondylodiscitis and to document the efficacy of conservative treatment based on the long-term clinical, functional, and radiologic outcomes of these patients. Summary of Background Data. Childhood spondylodiscitis is an extremely rare entity that often presents an nonspecific clinical picture. Treatment strategies are mainly conservative. Assessment of the clinical and radiologic outcomes of these patients is essential for prognosis and for justification of nonoperative management. Methods. According to our hospital records, 25 children (17 girls and 8 boys) with a mean age of 6.1 years (range: 2 months-12 years) were hospitalized for spondylodiscitis between 1968 and 1988. Parameters related to the duration of symptoms, clinical manifestations, diagnostic workup, and course of treatment were reviewed. Twenty of the patients (75%) returned for clinical and radiologic follow-up at least 10 years after discharge (range 10-23 years). Results. All of the patients presented with uncharacteristic signs and symptoms. Laboratory markers of inflammation were only moderately elevated. On average, the diagnosis of spondylodiscitis was established after a delay of 14 weeks (range 2 days-60 weeks). All levels of the spine were affected, whereby the thoracic and lumbar spine were preferential sites. The radiographic studies revealed destruction of adjacent vertebral bodies in 12 cases (48%). The remaining 13 patients (52%) had isolated disc involvement without radiographically detectable bone destruction. An abscess was detected by computed tomography in only 1 case. At the time of follow-up, 16 patients (80%) were asymptomatic and had unrestricted spinal mobility. Four patients (20%) had restricted spinal mobility with local kyphosis, which could be documented objectively on radiograph film. In 12 cases (60%), healing was accompanied by fibrous ankylosis and high-grade narrowing of the intervertebral disc space, as was demonstrated radiologically. Eight patients (40%) exhibited fusion of the vertebrae (4 partial, 4 complete). Four patients (20%) had residual defects. Conclusions. Our study shows that the course of childhood spondylodiscitis is generally benign. Segmental or bony ankylosis may occur during the healing process but normally does not lead to serious functional deficits. Neurologic deficits were not observed in any of our patients. Conservative management must be intensive, but the results are good. Biopsy is not required except in the



few cases where diagnostic uncertainty prevails.

61. **Manivel S. Prasad R. Jacob R.**

Anesthetic management of a child with Klippel-Feil syndrome in the radiology suite
In: Paediatric Anaesthesia. Vol. 15(2)(pp 171-172), 2005.

62. **McLaren CA. Elliott MJ. Roebuck DJ.**

Tracheobronchial intervention in children.
In: European Journal of Radiology. Vol. 53(1)(pp 22-34), 2005.
Abstract

Disorders of the major airways in children are often difficult to treat. Recent advances in interventional radiology are proving useful, for both assessment of the severity of the problem and treatment. Flexible bronchoscopy and bronchography are essential tools for diagnosis, intervention and follow-up. Echocardiography, computed tomography and magnetic resonance imaging may also be important for the evaluation of cardiovascular anomalies, which are often associated with airway obstruction. Surgery remains the first line of treatment for most congenital abnormalities of the airway and for cardiac anomalies that cause airway compression. Balloon dilatation and stenting are helpful in certain other conditions, as well as in children whose airway problem is not fully corrected by surgery. A multidisciplinary approach is required, with input from paediatric cardiothoracic surgeons, radiologists, radiographers, otolaryngologists, pulmonologists, anesthesiologists, intensivists, physiotherapists and liaison nurses.

63. **Pettersson HBL. Falth-Magnusson K. Persliden J., et al.**

Radiation risk and cost-benefit analysis of a paediatric radiology procedure: Results from a national study.
In: British Journal of Radiology. Vol. 78(925)(pp 34-38), 2005.

Abstract

A national study was performed to investigate radiation doses and associated risks to patients during X-ray fluoroscopy-guided small intestinal biopsies in the investigation of coeliac disease. Thermoluminescent dosimeters (TLD) and questionnaires were sent to 42 of the 43 paediatric departments in Sweden performing these biopsies. During the study period (2 x 3 weeks) 257 biopsies were recorded, representing about 10% of annually performed paediatric investigations. The results show that the absorbed dose during biopsy ranged from 0.04 mGy to 23.8 mGy (mean 1.87 mGy). The fluoroscopy time ranged from 2 s to 663 s (mean 60 s). The collective dose from the procedure amounts to 4.7 manSv year^{⁻¹. Thus, the annual excess cancer mortality, including severe hereditary effects, can be estimated at 0.6-0.7 cases per year. However, significant dose saving can be obtained by proper choice of sedation and biopsy equipment.}

64. **Rathaus V. Shapiro M. Grunebaum M., et al.**

Enlarged mesenteric lymph nodes in asymptomatic children: The value of the finding in various imaging modalities.
In: British Journal of Radiology. Vol. 78(925)(pp 30-33), 2005.

Abstract

The purpose of this study was to determine the prevalence of enlarged mesenteric lymph nodes in asymptomatic children. We prospectively studied 189 consecutive asymptomatic children from the outpatients' nephrological clinics who were referred for abdominal ultrasound. For comparison, we retrospectively reviewed the abdominal CT studies of 99 children, performed following blunt abdominal trauma. The children of both groups were divided into four subgroups according to their ages. The size, the number and the morphology of mesenteric lymph nodes were assessed. On abdominal ultrasound, enlarged mesenteric lymph nodes were detected in 55 of 189 asymptomatic children (29.1%). The longitudinal diameter of the lymph nodes ranged between 5 mm and 19 mm. These lymph nodes were arranged in clusters (three to nine in number in a cluster). All the lymph nodes were oval-shaped, flattened, and without any discomfort following graded transducer compression. On abdominal CT, enlarged mesenteric lymph nodes were diagnosed in 28 of the 99 children (28.3%). These lymph nodes measured more than 5 mm. and were arranged in clusters (three or more in number). In seven of these children associated minimal mural thickening of the terminal ileum was seen. The presence of enlarged mesenteric lymph nodes in asymptomatic children of all ages and in both sexes is a common, non-specific finding and should be



evaluated only in the appropriated clinical context.

65. **Ravindra S. Kini U.**

Cytomorphology and morphometry of small round-cell tumors in the region of the kidney.
In: Diagnostic Cytopathology. Vol. 32(4)(pp 211-216), 2005.

Abstract

Small round-cell tumors (SRCTs), with malignant cell components measuring 10 μ m or less in diameter with scanty cytoplasm in alcohol-fixed smears, pose a diagnostic challenge at fine-needle aspiration cytology (FNAC), especially when they are situated in and around the kidney and need facilities such as electron microscopy, immunohistochemistry, tissue culture, and cytogenetics for their subtyping. A precise cytodagnosis of SRCTs is important because a definite diagnosis is mandatory in preoperative diagnostic workup for presurgical chemotherapy in these cases. With this view in mind, an attempt has been made to diagnose SRCTs in the region of the kidney based on cytomorphology and morphometry alone so as to facilitate its diagnosis in a simple cytology laboratory of a developing country where facilities for auxiliary techniques are not easily available. Of 2,028 abdominal aspirates in a 12-yr period, 36 SRCTs were diagnosed in the region of the kidney by correlating with histology, radiology, and clinical features. The smears were studied for cellularity, morphology, pattern of cell arrangement, and smear background and morphometrically analyzed using an ocular micrometer. An aspirate with preponderant malignant round cells that were larger or double the size of red blood cells in air-dried smears or measured less than 10 μ m in diameter in alcohol-fixed smears was considered as a small blue-cell tumor. Twenty-one were diagnosed as Wilms' tumor (WT), 10 were diagnosed as neuroblastoma (NB), 3 were ganglioneuroblastoma (GNB), 1 was a cellular congenital mesoblastic nephroma (CMN), and 1 was an adrenocortical carcinoma (ACC). Cell clusters with neuropil and cytoplasmic processes were diagnostic of NB, ganglion cells of GNB, and blastema with tubular differentiation in WT. Aspirates from CMN and ACC were considered as simulators/mimickers of SRCT because they had superficial resemblance to SRCT and their differentiating cytomorphological features observed at histology were too subtle to be noted at cytology. The latter were appreciated only on retrospective analysis after histological confirmation. Thus, morphometry in correlation with cytology, clinical history, physical findings, and radiological data is helpful in guided FNA for a definite diagnosis of SRCT in the region of the kidney. One needs to keep in mind the mimickers of small round-cell lesions at this anatomic site.

66. **Turkington JRA. Paterson A. Sweeney LE., et al.**

Neck masses in children.

In: British Journal of Radiology. Vol. 78(925)(pp 75-85), 2005.

Abstract

Infants and children with neck masses frequently present to the radiologist for further evaluation. The role of the radiologist is to differentiate between conditions using imaging modalities such as ultrasound with colour Doppler, CT and MRI. Where appropriate, the radiologist will also stage lesions for management purposes and aid in guiding aspiration or biopsy. This paper presents a pictorial review of paediatric neck masses and their imaging features. Particular emphasis is applied to the anatomical site of the mass to aid in differential diagnosis. It must be emphasised that the radiological findings should always be interpreted in conjunction with the patient's age, the clinical history and the findings on physical examination.

67. **Venkateswaran RV. Barron DJ. Brawn WJ., et al.**

A forgotten old disease: Mediastinal tuberculous lymphadenitis in children.

In: European Journal of Cardio-Thoracic Surgery. Vol. 27(3)(pp 401-404), 2005.

Abstract

Objective: The purpose of the study was two-fold: (1) to highlight the varied presentation of mediastinal tuberculous lymphadenitis (MTL) in children and (2) to identify parameters, that may help in the early diagnosis of this condition. Methods: Between January 1995 and December 2002, 13 children with histological diagnosis of MTL were retrospectively assessed for age at presentation, history of exposure to TB, presenting symptoms, investigations, initial diagnosis, surgical treatment and outcome. Stepwise multiple linear regression analysis was used to determine potential risk factors for early diagnosis of MTL. Results: Thirteen children presented with: (a) fever, night sweats and weight loss (4); (b) acute respiratory distress (2); (c) cough and shortness of breath (SOB) (5); (d) stridor (1); and (e) chest pain (1). TB was suspected only in 6 children (46%) at presentation. In the other 7 cases (54%) the presumed



diagnoses were: neuroblastoma (n=1), metastatic malignancy (n=1), bronchial polyp (n=1), bronchogenic cyst (n=2), and presumed foreign body (n=2). Bronchoscopy was diagnostic in identifying cheesy material within the bronchus and organisms on lavage in 4 (30%) and in identifying external compression in 2 (15%). Thoracotomy and excision of the lymph node mass was necessary to treat the mediastinal compression and to ascertain the diagnosis of TB in 3 children (23%). All 13 children had complete resolution of tuberculous lymphadenitis following anti-tuberculous treatment. The diagnostic clues in this cohort of patients were cough and SOB with history of exposure to tuberculosis (P=0.0001) and bronchoscopy and lavage with positive staining for acid-fast bacilli (P=0.0001). Conclusions: Tuberculosis was not suspected in 54% of children with MTL, and they posed diagnostic dilemma on admission. Bronchoscopy must be used as a diagnostic tool in children where tuberculosis cannot be excluded by radiology or specific skin tests. Thoracotomy and excision may be necessary to treat the obstructive symptoms.

Intervallum emlőrák szűrése

2005

68. **Barth RJ Jr. Gibson GR. Carney PA., et al.**

Detection of breast cancer on screening mammography allows patients to be treated with less-toxic therapy.

In: AJR. American Journal of Roentgenology. 184(1):324-9, 2005

Abstract

OBJECTIVE: Therapy for breast cancer is accompanied by acute and chronic toxicity. Little research has been conducted to determine the impact of the mode of breast cancer detection on the likelihood of receiving different types of treatment. The objective of this study was to determine whether detection of breast cancer on screening mammography is associated with less-toxic therapy. **MATERIALS AND METHODS:** The study group for this retrospective cohort study consisted of 992 women with invasive breast cancer detected on screening mammography (n = 460) or at physical examination (n = 532) at a single institution between 1990 and 2001. To address the generalizability of study findings, we compared the characteristics of study participants with those diagnosed with breast cancer in a population-based mammography registry. **RESULTS:** The patients whose breast cancer was detected on screening mammography more frequently had lymph nodes free of metastases (84% vs 58%, p < 0.0001), had smaller tumors (1.5 vs 2.9 cm, p < 0.0001), were more likely to be treated with breast conservation (56% vs 32%, p < 0.0001), and were less likely to be treated with chemotherapy (28% vs 56%, p < 0.0001). In a multivariate analysis with adjustments for age and functional status, patients whose cancer was detected at physical examination were more than twice as likely to undergo mastectomy (odds ratio [OR], 2.5; 95% confidence interval [CI], 1.9-3.3) and nearly three times as likely to be treated with chemotherapy (OR, 2.9; 95% CI, 2.1-3.9). For younger women (40-49 years old), the likelihood of receiving chemotherapy was more than doubled if the cancer was detected at physical examination rather than on screening mammograms (OR, 2.3; 95% CI, 1.3-4.0). For older women (>= 70 years old), patients whose cancer was detected at physical examination were five times more likely to undergo mastectomy (OR, 5.8; 95% CI, 3.2-10.5) and four times more likely to receive chemotherapy (OR, 4.6; 95% CI, 1.6-13) than the group whose tumors were detected on screening mammography. **CONCLUSION:** Breast cancers detected on screening mammography are smaller, are less likely to metastasize to lymph nodes, and are more likely to be treated with breast conservation and without chemotherapy. These findings provide an additional rationale for performing screening mammography, especially for women at age extremes for whom the survival benefit of screening mammography is debated.

69. **Bucchi L. Barchielli A. Ravaioli A., et al.**

Screen-detected vs clinical breast cancer: the advantage in the relative risk of lymph node metastases decreases with increasing tumour size.[see comment].

Comment in: Br J Cancer. 2005 Jan 17;92(1):3-4;

In: British Journal of Cancer. 92(1):156-61, 2005.

Abstract

Screen-detected (SD) breast cancers are smaller and biologically more indolent than clinically presenting cancers. An often debated question is: if left undiagnosed during their preclinical phase, would they become more aggressive or would they only increase in size?



This study considered a registry-based series (1988-1999) of 3329 unifocal, pT1a-pT3 breast cancer cases aged 50-70 years, of which 994 were SD cases and 2335 clinical cases. The rationale was that (1) the average risk of lymph node involvement (N+) is lower for SD cases, (2) nodal status is the product of biological aggressiveness and chronological age of the disease, (3) for any breast cancer, tumour size is an indicator of chronological age, and (4) for SD cases, tumour size is specifically an indicator of the duration of the preclinical phase, that is, an inverse indicator of lead time. The hypothesis was that the relative protection of SD cases from the risk of N+ and, thus, their relative biological indolence decrease with increasing tumour size. The odds ratio (OR) estimate of the risk of N+ was obtained from a multiple logistic regression model that included terms for detection modality, tumour size category, patient age, histological type, and number of lymph nodes recovered. A term for the detection modality-by-tumour size category interaction was entered, and the OR for the main effect of detection by screening vs clinical diagnosis was calculated. This increased linearly from 0.05 (95% confidence interval: 0.01-0.39) in the 2-7 mm size category to 0.95 (0.64-1.40) in the 18-22 mm category. This trend is compatible with the view that biological aggressiveness of breast cancer increases during the preclinical phase.

70. Caldron LJ. Walters SJ. Reed JA., et al.

Case-mix fails to explain variation in mastectomy rates: management of screen-detected breast cancer in a UK region 1997-2003.

In: British Journal of Cancer. 92(1):55-9, 2005

Abstract

Wide variation in the surgical management of breast cancer exists at hospital, regional, national and international level. To demonstrate whether variation in surgical practice observed at aggregate level between breast units persists following adjustment for case-mix, individual patient-level data from the Trent Breast Screening Programme Quality Assurance database (1997-2003) was analysed. Expected case-mix adjusted mastectomy rates were derived by logistic regression using the variables tumour size, site and grade, patient age and year of presentation, employing the region's overall case-mix adjusted practice as the reference population. The region's 11 breast screening units detected 5109 (3989 invasive) surgically managed primary breast cancers over the 6-year period. A total of 1828 mastectomies (Mx) were performed (Mx rate 35.8%, 95% confidence interval: 34.5-37.1%). Significant variation in mastectomy rates were observed between units (range 25-45%, $P < 0.0001$), and persists following case-mix adjustment ($P < 0.0001$). Two-fold variation in observed to expected unit mastectomy rate coefficient is demonstrated overall (range 0.66-1.36), increasing to almost four-fold variation in cancers less than 15 mm diameter (range 0.55-1.95). Significant variation in surgery for screen-detected primary breast cancer is not explained by case-mix. Further research is required to investigate potential patient and professional causative factors.

71. Centre for Reviews and Dissemination

A meta-analysis of 16 randomized controlled trials to evaluate computer-based clinical reminder systems for preventive care in the ambulatory setting (Structured abstract).

In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.

72. Centre for Reviews and Dissemination

Effectiveness and cost-effectiveness of double reading of mammograms in breast cancer screening: findings of a systematic review (Structured abstract).

In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.

73. Centre for Reviews and Dissemination

Efficacy of screening mammography: a meta-analysis (Structured abstract).

In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.

74. Centre for Reviews and Dissemination

Estimating the accuracy of screening mammography: a meta-analysis (Structured abstract).

In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.

75. Centre for Reviews and Dissemination

Mammography screening: mortality rate reduction and screening interval (Structured abstract).



76. **Duffy SW. Gabe R.**

What should the detection rates of cancers be in breast screening programmes?

In: British Journal of Cancer. 92(3):597-600, 2005

Abstract

Minimum detection rates at screening are sometimes laid down as standards for breast cancer screening programmes, based on underlying incidence of the disease in the age group screened. Detection rates should also depend on desired sensitivity, mean sojourn time, interscreening interval and the screening round--that is, prevalent (first) or incident (second or subsequent). In this paper, we use these quantities to derive expected, minimum and maximum detection rates proportional to the underlying incidence as well as estimated underlying incidence rates from extrapolation of prescreening trends in England and Wales to derive alternative standard minimum, expected and maximum detection rates per 1000 women screened for the UK Breast Screening Programme, as follows: minimum detection rates should be 4.1 and 4.3 at prevalence screen and incidence screens, respectively; expected rates should be 6.9 and 4.8 and maximum rates of 9.6 and 5.5. These are consistent with observed detection rates in the UK programme.

77. **Kerlikowske K. Shepherd J. Creasman J., et al.**

Are breast density and bone mineral density independent risk factors for breast cancer?.

In: Journal of the National Cancer Institute. 97(5):368-74, 2005.

Abstract

BACKGROUND: Mammographic breast density and bone mineral density (BMD) are markers of cumulative exposure to estrogen. Previous studies have suggested that women with high mammographic breast density or high BMD are at increased risk of breast cancer. We determined whether mammographic breast density and BMD of the hip and spine are correlated and independently associated with breast cancer risk. **METHODS:** We conducted a cross-sectional study (N = 15,254) and a nested case-control study (of 208 women with breast cancer and 436 control subjects) among women aged 28 years or older who had a screening mammography examination and hip BMD measurement within 2 years. Breast density for 3105 of the women was classified using the American College of Radiology Breast Imaging Reporting and Data System (BI-RADS) categories, and percentage mammographic breast density among the case patients and control subjects was quantified with a computer-based threshold method. Spearman rank partial correlation coefficient and Pearson's correlation coefficient were used to examine correlations between BI-RADS breast density and BMD and between percentage mammographic breast density and BMD, respectively, in women without breast cancer. Logistic regression was used to examine the association of breast cancer with percentage mammographic breast density and BMD. All statistical tests were two-sided. **RESULTS:** Neither BI-RADS breast density nor percentage breast density was correlated with hip or spine BMD (correlation coefficient = -.02 and -.01 for BI-RADS, respectively, and -.06 and .01 for percentage breast density, respectively). Neither hip BMD nor spine BMD had a statistically significant relationship with breast cancer risk. Women with breast density in the highest sextile had an approximately threefold increased risk of breast cancer compared with women in the lowest sextile (odds ratio = 2.7, 95% confidence interval = 1.4 to 5.4); adjusting for hip or spine BMD did not change the association between breast density and breast cancer risk. **CONCLUSION:** Breast density is strongly associated with increased risk of breast cancer, even after taking into account reproductive and hormonal risk factors, whereas BMD, although a possible marker of lifetime exposure to estrogen, is not. Thus, a component of breast density that is independent of estrogen-mediated effects may contribute to breast cancer risk.

78. **Kerlikowske K. Smith-Bindman R. Abraham LA., et al.**

Breast cancer yield for screening mammographic examinations with recommendation for short-interval follow-up.

In: Radiology. Vol. 234(3)(pp 684-692), 2005.

Abstract

PURPOSE: To compare cancer yield for screening examinations with recommendation for short-interval follow-up after diagnostic imaging work-up versus after screening mammography only. **MATERIALS AND METHODS:** From January 1996 to December 1999, Breast Imaging Reporting and Data System assessments and recommendations were collected prospectively for 1171792 screening examinations in 758 015 women aged 40-89

years at seven mammography registries in Breast Cancer Surveillance Consortium. Registries obtained waiver of signed consent or collected signed consent in accordance with institutional review boards at each location. Diagnosis of invasive cancer or ductal carcinoma in situ within 24 months of screening examination and tumor stage and size for invasive cancer were determined through linkage to pathology database or tumor registry, χ^2 test was used to determine significant differences between groups. RESULTS: Overall, 5.2% of first and 1.7% of subsequent screens included recommendation for short-interval follow-up, which was similar to likelihood of recommendation for diagnostic evaluation (first screens, 4.6%; subsequent, 2.6%). Most recommendations for short-interval follow-up were based on screening mammography alone (86.2% of first screens, 77.5% of subsequent). Yield of cancer for screening examinations with probably benign finding (PBF) and recommendation for short-interval follow-up based on screening mammography alone tended to be lower than in those with PBF and recommendation for short-interval follow-up after additional work-up (first screens: 0.54% vs 0.96%, $P = .10$; subsequent: 1.50% vs 1.73%, $P = .26$). Proportion of stage II and higher disease tended to be higher for examinations with PBF and recommendation for short-interval follow-up based on screening mammography alone compared with those recommended for short-interval follow-up after additional work-up (first screens: 34.7% vs 24.4%, $P = .43$; subsequent: 27.5% vs 19.2%, $P = .13$). CONCLUSION: Many first screening examinations include recommendation for short-interval follow-up based on screening mammography alone. Cancer yield for these examinations is low and is lower than that with diagnostic work-up prior to short-interval follow-up recommendation. Absence of diagnostic work-up prior to short-interval follow-up recommendation may result in periodic surveillance of a high proportion of benign lesions.

79. **Murff HJ. Byrne D. Haas JS., et al.**

Race and family history assessment for breast cancer.

In: Journal of General Internal Medicine. Vol. 20(1)(pp 75-80), 2005.

Abstract

OBJECTIVE: Studies have demonstrated disparities in breast cancer screening between racial and ethnic groups. Knowledge of a woman's family history of breast cancer is important for initiating early screening interventions. The purpose of this study was to determine whether differences exist in the collection of family history information based on patient race. DESIGN: Cross-sectional patient telephone interview and medical record review. SETTING: Eleven primary care practices in the Greater Boston area, all associated with Harvard Medical School teaching hospitals. PARTICIPANTS: One thousand seven hundred fifty-nine women without a prior history of breast cancer who had been seen at least once by their primary care provider during the prior year. MEASUREMENTS AND MAIN RESULTS: Data were collected on patients regarding self-reported race, family breast cancer history information, and breast cancer screening interventions. Twenty-six percent (462/1,759) of the sample had documentation within their medical record of a family history for breast cancer. On multivariate analysis, after adjusting for patient age, education, number of continuous years in the provider's practice, language, and presentation with a breast complaint, white women were more likely to be asked about a breast cancer family history when compared to nonwhite women (odds ratio, 1.68: 95% confidence Interval, 1.21 to 2.35). CONCLUSIONS: The majority of women seen by primary care providers do not have documentation of a family breast cancer history assessment within their medical record. White women were more likely to have family breast cancer information documented than nonwhites.

80. **Olsen AH. Njor SH. Vejborg I., et al.**

Breast cancer mortality in Copenhagen after introduction of mammography screening: cohort study.[see comment].

Comment in: BMJ. 2005 Jan 29;330(7485):205-6;

In: BMJ. 330(7485):220, 2005

Abstract

OBJECTIVES: To evaluate the effect on breast cancer mortality during the first 10 years of the mammography service screening programme that was introduced in Copenhagen in 1991. DESIGN: Cohort study. SETTING: The mammography service screening programme in Copenhagen, Denmark. PARTICIPANTS: All women ever invited to mammography screening in the first 10 years of the programme. Historical, national, and historical national control groups were used. MAIN OUTCOME MEASURES: The main outcome measure was breast cancer mortality. We compared breast cancer mortality in the study group with rates in the



control groups, adjusting for age, time period, and region. RESULTS: Breast cancer mortality in the screening period was reduced by 25% (relative risk 0.75, 95% confidence interval 0.63 to 0.89) compared with what we would expect in the absence of screening. For women actually participating in screening, breast cancer mortality was reduced by 37%. CONCLUSIONS: In the Copenhagen programme, breast cancer mortality was reduced without severe negative side effects for the participants.

81. **Shen Y. Parmigiani G.**

A model-based comparison of breast cancer screening strategies: Mammograms and clinical breast examinations.

In: Cancer Epidemiology, Biomarkers & Prevention. Vol. 14(2)(pp 529-532), 2005.

Abstract

In screening for secondary prevention of breast cancer, clinical breast examination (CBE) combined with mammography may improve overall screening sensitivity compared with mammography alone. A systematic evaluation of the relative expenses and projected benefit of combining these two screening modalities is not presently available. We addressed this issue using a microsimulation model incorporating age-specific preclinical duration of the disease, age-specific sensitivities of the two modalities, age-specific incidence of the disease, screening strategy, and competing causes of mortality. We examined a total of 48 screening strategies, depending on the age range, the examination interval, and whether mammography or CBE is given at every one or two exam. Our results indicate that a biennial mammography can be cost-effective if coupled with annual CBE. For each screening interval and starting age, giving mammography every two exams and CBE at every exam has the lowest marginal cost per year of quality-adjusted life saved, whereas giving both at every exam has the highest. Comparing annual mammography and CBE to biennial mammography and annual CBE from 50 to 79, the total cost was reduced by 35%, whereas the marginal quality-adjusted life years only decreased by 12%. Similar reductions are observed for other starting ages. It is cost-effective to have a biennial mammography if coupled with an annual CBE. Annual mammography combined with CBE every 6 months will lead to a 41% increase in the quality-adjusted life years compared with annual mammography and CBE from 50 to 79, whereas the total cost increases by 30%.

82. **Smith-Bindman R. Chu P. Miglioretti DL., et al.**

Physician predictors of mammographic accuracy.

In: Journal of the National Cancer Institute. 97(5):358-67, 2005

Abstract

BACKGROUND: The association between physician experience and the accuracy of screening mammography in community practice is not well studied. We identified characteristics of U.S. physicians associated with the accuracy of screening mammography. **METHODS:** Data were obtained from the Breast Cancer Surveillance Consortium and the American Medical Association Master File. Unadjusted mammography sensitivity and specificity were calculated according to physician characteristics. We modeled mammography sensitivity and specificity by multivariable logistic regression as a function of patient and physician characteristics. All statistical tests were two-sided. **RESULTS:** We studied 209 physicians who interpreted 1,220,046 screening mammograms from January 1, 1995, through December 31, 2000, of which 7143 (5.9 per 1000 mammograms) were associated with breast cancer within 12 months of screening. Each physician interpreted a mean of 6011 screening mammograms (95% confidence interval [CI] = 4998 to 6677), including a mean of 34 (95% CI = 28 to 40) from women diagnosed with breast cancer. The mean sensitivity was 77% (range = 29%-97%), and the mean false-positive rate was 10% (range = 1%-29%). After adjustment for the patient characteristics of those whose mammograms they interpreted, physician characteristics were strongly associated with specificity. Higher specificity was associated with at least 25 years (versus less than 10 years) since receipt of a medical degree (for physicians practicing for 25-29 years, odds ratio [OR] = 1.54, 95% CI = 1.14 to 2.08; P = .006), interpretation of 2500-4000 (versus 481-750) screening mammograms annually (OR = 1.30, 95% CI = 1.06 to 1.59; P = .011) and a high focus on screening mammography compared with diagnostic mammography (OR = 1.59, 95% CI = 1.37 to 1.82; P < .001). Higher overall accuracy was associated with more experience and with a higher focus on screening mammography. Compared with physicians who interpret 481-750 mammograms annually and had a low screening focus, physicians who interpret 2500-4000 mammograms annually and had a high screening focus had approximately 50% fewer false-positive examinations and



detected a few less cancers. **CONCLUSION:** Raising the annual volume requirements in the Mammography Quality Standards Act might improve the overall quality of screening mammography in the United States.

83. **Taylor P. Champness J. Given-Wilson R., et al.**

Impact of computer-aided detection prompts on the sensitivity and specificity of screening mammography.

In: Health Technology Assessment (Winchester, England). Vol. 9(6)(pp iii-47), 2005.

Abstract

Objectives: To determine the value of computer-aided detection (CAD) for breast cancer screening. **Design:** Two sets of mammograms with known outcomes were used in two studies. Participants in both studies read the films with and without the benefit of a computer aid. In both studies, the order of reading sessions was randomised separately for each reader. The first set of 180 films, used in study 1, included 20 false-negative interval cancers and 40 screen-detected cancers. The second set of 120 films, used in study 2, was designed to be favourable to CAD: all 44 cancer cases had previously been missed by a film reader and cancers prompted by CAD were preferentially included. **Setting:** The studies were conducted at five UK screening centres between January 2001 and April 2003. **Participants:** Thirty radiologists, five breast clinicians and 15 radiographers participated. **Interventions:** All cases in the trial were digitised and analysed using the R2 ImageChecker(R) version 2.2. Participants all received training on the use of CAD. In the intervention condition, participants interpreted cases with a prompt sheet on which regions of potential abnormality were indicated. **Main outcome measures:** The sensitivity and specificity of participants were measured in both intervention and control conditions. **Results:** No significant difference was found for readers' sensitivity or specificity between the prompted and unprompted conditions in study 1 [95% confidence index (CI) for sensitivity with and without CAD is 0.76 to 0.80, for specificity it is 0.81 to 0.86 without CAD and 0.81 to 0.87 with CAD]. No statistically significant difference was found between the sensitivity and specificity of different groups of film reader (95% CI for unprompted sensitivity of radiologists was 0.75 to 0.81, for radiographers it was 0.71 to 0.81, prompted sensitivity was 0.76 to 0.81 for radiologists and 0.69 to 0.79 for radiographers). Thirty-five readers participated in study 2. Sensitivity was improved in the prompted condition (0.81 from 0.78) but the difference was slightly below the threshold for statistical significance (95% CI for the difference -0.003 to 0.064). Specificity also improved (0.87 from 0.86); again, the difference was not significant at 0.05 (95% CI -0.003 to 0.034). A cost-effectiveness analysis showed that computer prompting increases cost. **Conclusions:** No significant improvement in film readers' sensitivity or specificity or gain in cost-effectiveness was established in either study. This may be due to the system's low specificity, its relatively poor sensitivity for subtle cancers or the fact the prompts cannot serve as aids to decision-making. Readers may have been better able to make use of the prompts after becoming more accustomed to working with them. Prompts may have an impact in routine use that is not detectable in an experimental setting. Although the case for CAD as an element of the NHS Breast Screening Programme is not made here, further research is required. Evaluations of new CAD tools in routine use are underway and their results should be given careful attention.

84. **Theberge I. Hebert-Croteau N. Langlois A., et al.**

Volume of screening mammography and performance in the Quebec population-based Breast Cancer Screening Program.

In: CMAJ: Canadian Medical Association Journal. Vol. 172(2)(pp 195-199), 2005.

Abstract

Background: In the Quebec Breast Cancer Screening Program (Programme que[spacing acute]be[spacing acute]cois de de[spacing acute]pistage du cancer du sein [PQDCS]), radiologists' and facilities' volumes of screening mammography vary considerably. We examined the relation of screening-mammography volume to rates of breast cancer detection and false-positive readings in the PQDCS. **Methods:** The study population included 307 314 asymptomatic women aged 50-69 years screened during 1998-2000. Breast cancer detection rates were analyzed by comparing all women with screening-detected breast cancer (n = 1709) and a 10% random sample of those without (n = 30 560). False-positive rates were analyzed by comparing the 3159 women with false-positive readings and the 27 401 others in the 10% random sample. Characteristics of participants, radiologists and facilities were obtained from the PQDCS information system. Data were analyzed by means of logistic regression. **Results:** The rate of breast cancer detection appeared to be unrelated to the



radiologist's screening-mammography volume but increased with the facility's screening-mammography volume. The breast cancer detection rate ratio for facilities performing 4000 or more screenings per year, compared with those performing fewer than 2000, was 1.28 (95% confidence interval [CI] 1.07-1.52). In contrast, the frequency of false-positive readings was unrelated to the facility's screening volume but was inversely related to the radiologist's screening volume: the rate ratio for readers of 1500 or more screenings per year compared with those reading fewer than 250 was 0.53 (95% CI 0.35-0.79). Interpretation: Radiologists' and facilities' caseloads showed independent and complementary associations with performance of screening mammography in the PQDCS. Radiologists who worked in larger facilities and read more screening mammograms had higher breast cancer detection rates while maintaining lower false-positive rates.

Intervenciósi radiológia

1997

85. **Bérczi Viktor - Nemes Balázs - Hüttl Kálmán**
Képekalkotó eljárások és intervenciósi radiológiai lehetőségek a verőerek megbetegedéseiben.
In: Háziorvosi szemmel. - 1997. máj., p. 15-20.
86. **Engloner László - Bánsági Zoltán - Molnár Jeannette, et al.**
Kiterjedt, rosszindulatú májtumörök lokális kezelése intervenciósi radiológiai módszerekkel.
In: Magyar belorvosi archívum - 1997. 50. évf. 2. sz., p. 213-216.
Primary and secondary liver tumours are important diseases from the diagnostic, prognostic and therapeutic point of view. This article discloses our experiences with the radiological interventional treatment of 55 patients between 1991 and 1996. In 54 per cent of the cases the tumor was multiple and in 65 per cent of the cases larger than 5 cm. The methods of treatment were transarterial cytostatic drug infusion, transarterial chemoembolization, percutaneous ethanol injection or the combination of these methods. During the retrospective analysis of the procedures, it has been found that this type of treatment is palliative, and the results considerably depend on the time elapsed between diagnosis and first treatment.
87. **Kónya András - Vigváry Zoltán**
Intervenciósi radiológiai eljárások inoperabilis primer májrákok palliatív kezelésében.
In: Magyar onkológia. - 1997. 41. évf. 3. sz., p. 171-178.
Introduction: Interventional radiology procedures may offer effective palliation for patients with unresectable primary hepatocellular carcinoma. Patients and methods: Thirteen patients with inoperable primary hepatoma having huge size (average 293 cm²) were classified as Okuda Stage I-II (6-6 patients, respectively) and one in Stage III. treatment was based upon applying three different therapeutic modalities including lipiodolization, transcatheter embolization and intraarterial cytostatic infusion. Therapy was carried out in multiple (2-7, average 3.7) cycles and in the form of combined chemotherapy including doxorubicin, cisplatin, mitomycin C and 5-fluorouracil. Results: 5/13 patients are still alive for 10-40 (mean 27; median 32) months, 3 of them are symptom-free. 8/13 patients has been lost after a follow-up of 7-18 (mean 12.1; median 14) months. Conclusion: In the palliative treatment for inoperable hepatomas lipiodolisation (oily chemoembolization) seem to be the treatment of choice the best results can be achieved in patients with hypervascular, encapsulated tumors accumulating Lipiodol densely and permanently.
88. **Szalai Gábor - Kaiser László - Kálmán Endre, et al.**
Intervenciósi emlődiagnosztika.
In: Magyar radiológia. - 1997. 71. évf. 5. sz., p. 144-147.
In bloody, discharging breast of an old woman mammography could not detect a tumor mass, the ductography showed stop in the duct. FNAB was performed from the area nearly behind the stop. The ductography performed afterwards was successful. After ultrasound-guided wire localization successful surgery was proved by histology.

1999

89. **Battyány István - Horváth László - Harmat Zoltán, et al.**
A klinikai ismeretek és a képekalkotó diagnosztikában szerzett gyakorlat jelentősége a súlyos



tüdőembóliák intervenciósi radiológiai kezelésében.
In: Magyar radiológia. - 1999. 73. évf. 6. sz., p. 159-163.

A 47-year-old female patient's case is reported and the diagnostic work up related to interventional radiological procedures is presented. Revising the diagnosis of ascendant aortic aneurysm that seemed to be confirmed by several different examinations, the authors verified and treated a serious pulmonary embolism and treated successfully. The immediately performed thrombus destruction and the local low dose (10 000 IU/h streptokinase) fibrinolytic treatment resulted in the recovery of the patient within 5 days. The case suggested that doctors doing radiological interventions must be well-experienced diagnostic radiologists thus to be able to revise the initial faulty diagnosis and to perform the required (in some case non-harmless) therapy.

90. **Hüttl Kálmán**
Az intervencionális radiológia szerepe az alsó végtag obstruktív érbetegségeinek kezelésében.
In: Házi orvos továbbképző szemle. - 1999. 4. évf. 1. sz., p. 32-35.

2000

91. **Baranyai Árpád**
Érsebészet és intervencionális radiológia.
In: Érbetegségek. Supplementum. - 2000. 7. évf. suppl., p. 15-16.
92. **Farkas Dezső**
Az Intervenciósi Radiológia múltja, jelene és jövője.
In: Recept. - 2000. 11. évf. 2. sz., p. 10-11.

2001

93. **Bán Éva**
Az intervenciósi pulmonológiai eljárások mikrobiológiai indikációja.
In: Medicina thoracalis. - 2001. 54. évf. 2. sz., p. 47-49.
94. **Laczko Ágnes. - Szabó Gábor Viktor. - Szeberin Zoltán, et al.**
Érsebészeti és intervencionális radiológiai beavatkozások előkészítése trombolízis alkalmazásával.
In: Magyar sebészet. - 2001. 54. évf. 6. sz. suppl., p. 69-73.
The authors describe their 60 cases of thrombolysis with streptokinase (SK). Thrombolysis was required in 55 patients because of arterial, while in 5 patients because of venous thrombosis. The 73 per cent of the patients with arterial occlusion where thrombolysis was applied belonged to Fontain stage IV, while 27 per cent to Fontain stage III. Graft occlusion occurred in 60 per cent of all cases and the acute or subacute thrombosis of the native vessels required thrombolysis in 40 per cent. The thrombolysis alone was sufficient in 26 patients, while it was completed with PTA in 9, with PTA and implantation of stent in 1 and with vascular surgical procedure in 10 cases. Reconstruction surgery was the final solution in 4 patients, for whom the thrombolysis was inadequate. Amputation was unavoidable in 8 cases. The thrombolysis therapy was successful in 77 per cent in our experience. The high number of hemorrhagic complications was due to the bleeding of puncture hole. It needed surgical suture in 10 cases.
95. **Montgomery, Mark L. - Sullivan, John P.**
Az intervenciósi radiológia új útjai : kevésbé invazív diagnosztikai és terápiás lehetőségek keresése.
In: Orvostovábbképző szemle. - 2001. 8. évf. 6. sz., p. 42-47.
96. **Szentkereszty Zsolt. - Péter Mózes. - Erdélyi Gabriella, et al.**
Perkután intervenciósi radiológiai módszerek helye a hasnyálmirigy ártómlők kezelésében.
In: Magyar sebészet. - 2001. 54. évf. 1. sz., p. 15-17.
Authors evaluate the indications and results of percutaneous puncture and drainage of pancreatic pseudocysts. The interventions were performed in 20 patients. The first line treatment is usually surgical. Percutaneous drainage or aspiration is suggested if the patient is



symptomatic, the size of pseudocyst is between 3 and 6 cms and when it can be punctured using radiological procedures, without the risk of damaging other organs. Previous peripancreatic operation, high-risk surgical intervention and the refusal of the operation by the patient should also be considered. Percutaneous drainage is an alternative method for the treatment of pancreatic pseudocysts. The advantages of this procedure are: It is minimally invasive, complications are rare and reintervention is possible. Disadvantage is high risk of recurrence.

2002

97. **Bérczi Viktor**
Új kutatási irányvonalak a vascularis intervenciók radiológiájában.
In: Magyar radiológia. - 2002. 76. évf. 5. sz., p. 243-245.
98. **Engloner László**
Daganatos betegségek kezelése az intervenciók radiológia eszközeivel.
In: Lege artis medicinae. - 2002. 12. évf. 2. sz., p. 88-93.
The authors review the interventional radiological methods applicable in tumour therapy. The therapy of non-resectable primary and secondary liver tumours is discussed based on literature data and own experience. The possibilities of percutaneous tumour ablation are limited by the size and number of the tumours. Intra-arterial chemotherapy, chemoembolisation and feeding artery occlusion can be successful resulting in longer life and better quality of life in cases with advanced tumours. The results are better if these methods are combined with systemic chemotherapy.

2004

100. **Barta H. Miklós - Berentey Ernő - Forrai Gábor**
Digitális radiológia gyakorlati használata az OGYK-ban.
In: IME. - 2004. 3. évf. 2. sz., p. 32-37.
101. **Battyány István**
Intervenciók radiológia a fekvő és ambuláns ellátás határán.
In: IME. - 2004. 2. évf. 10. sz., p. 31-35.
102. **Engloner László**
Az intervenciók radiológia lehetőségei : vascularis ablatiók.
In: Orvosi Hetilap. - 2004. 145. évf. 7. sz. 1. suppl. , p. 398-401.
103. **Péter Mózes - Tóth Judit**
Az intervenciók radiológia lehetőségei : percutan radiofrekvenciás ablatió.
In: Orvosi Hetilap. - 2004. 145. évf. 7. sz. 1. suppl. , p. 395-398
104. **Repa Imre**
Kritikus helyzetben a magyar radiológia : a jövő a képalkotó diagnosztikai centrumokban folyó e-alapú tevékenységé.
In: Kórház. - 2004. 11. évf. 7/8., p. 19-20.
105. **Topa Lajos**
ERCP-terápia : intervenciók endoszkópos kezelés az epeúti és hasnyálmirigy-betegségek ellátásában.
In: Családorvosi fórum. - 2004. 3. sz., p. 60-63.

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106. **Aabakken L.**
Nonvariceal upper gastrointestinal bleeding.
In: Endoscopy. Vol. 37(3)(pp 195-200), 2005.
107. **Anonymous.**
Proceedings of the 30th Annual Scientific Meeting of the Society of Interventional Radiology.



March 31-April 5, 2005, New Orleans, Louisiana, USA.
In: Journal of Vascular & Interventional Radiology. 16(2 Pt 2):P1-358, S1-131, 2005 Feb.

108. **Bilotta F. Ferri F. Giovannini F., et al.**
Nefopam or clonidine in the pharmacologic prevention of shivering in patients undergoing conscious sedation for interventional neuroradiology.
In: Anaesthesia. Vol. 60(2)(pp 124-128), 2005.
Abstract
The aim of this randomised, double-blind study was to investigate the usefulness of intravenous nefopam, clonidine or placebo in preventing shivering in patients undergoing conscious sedation for interventional neuroradiological procedures. A total of 101 patients were prospectively enrolled and assigned to one of three groups to receive nefopam, clonidine or placebo. The overall incidence of intra-operative shivering was significantly lower in patients treated with nefopam than in those treated with clonidine or placebo (2/32 (6%) vs. 11/38 (29%), $p < 0.02$; 2/32 (6%) vs. 24/31 (77%), $p < 0.0001$, respectively). The number of patients who required ephedrine infusions to maintain a mean arterial pressure of 100 mm Hg was higher in the clonidine group than in the nefopam and placebo groups (18/38 (47%) vs. 5/32 (17%), $p < 0.05$; 18/38 (47%) vs. 6/31 (19%), $p < 0.05$, respectively). We found that both nefopam and clonidine significantly lowered the rate and severity of shivering during interventional neuroradiological procedures. Fewer patients in the nefopam group than in the other two groups required vasoactive drugs.
109. **Binkert CA. Bansal A. Gates JD.**
Inferior vena cava filter removal after 317-day implantation.
In: Journal of Vascular & Interventional Radiology. Vol. 16(3)(pp 395-398), 2005.
Abstract
A Gu[spacing diaeresis]nther Tulip inferior vena cava (IVC) filter was placed prophylactically in a 22-year-old trauma victim with spinal injuries. Attempts to retrieve the filter at 21 and 25 days after placement were aborted as a result of clot trapped in the filter. Despite the possible risk of an IVC laceration, a third attempt was made 317 days after placement in view of the young age of the patient. The filter started collapsing into the retrieval sheath but could not easily be separated from the IVC. During attempted redeployment, the filter would not reopen. The filter was ultimately retrieved with use of additional force. A mild stenosis of the IVC was noted immediately after retrieval. However, the IVC returned to its preretrieval diameter as seen on a 3-month follow-up venogram.
110. **Centre for Reviews and Dissemination**
Balloon dilation and stent implantation for treatment of femoropopliteal arterial disease: meta-analysis (Structured abstract).
In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.
111. **Centre for Reviews and Dissemination**
Preoperative hair removal: a systematic literature review (Structured abstract).
In: Database of Abstracts of Reviews of Effectiveness. Issue 1, 2005.
112. **Connors JJ 3rd. Sacks D. Furlan AJ., et al.**
Training, competency, and credentialing standards for diagnostic cervicocerebral angiography, carotid stenting, and cerebrovascular intervention: a joint statement from the American Academy of Neurology, American Association of Neurological Surgeons, American Society of Interventional and Therapeutic Radiology, American Society of Neuroradiology, Congress of Neurological Surgeons, AANS/CNS Cerebrovascular Section, and Society of Interventional Radiology.[see comment].
Comment in: Radiology. 2005 Jan;234(1):49-52;
In: Radiology. 234(1):26-34, 2005
113. **Enzmann DR.**
A different look at turf.
In: Radiology. Vol. 234(2)(pp 347-349), 2005.
Abstract
Since radiologists have a tendency to overestimate the importance of technology, it behooves them to expand their understanding of how technology interacts with clinical



practice models and why the practice model is the dominant factor in turf issues.

114. **Fasel JHD. Morel P. Gailloud P.**
A survival strategy for anatomy
In: Lancet. Vol. 365(9461)(pp 754), 2005.
115. **Fricke BL. Racadio JM. Duckworth T., et al.**
Placement of peripherally inserted central catheters without fluoroscopy in children: Initial catheter tip position.
In: Radiology. Vol. 234(3)(pp 887-892), 2005.
Abstract
PURPOSE: To determine how often placement of peripherally inserted central catheters (PICCs) without imaging guidance results in an initially correct central venous catheter tip location. MATERIALS AND METHODS: This study was approved by the hospital's institutional review board, which waived the requirement for informed consent. In a children's hospital, 843 PICCs were placed in 698 patients (age range, 0 days to 26 years; mean, 6.9 years) during a 14-month study period. All PICCs were placed by a specialized team of PICC nurses and interventional radiology technologists in an angiography suite with the supervision of pediatric interventional radiologists. All catheters were threaded blindly to a previously estimated length by either a PICC nurse or a pediatric interventional radiologist, according to National Association of Vascular Access Networks guidelines, and the initial PICC tip location was then determined by means of spot fluoroscopy. PICC tips were regarded as central if they resided anywhere within the superior vena cava (SVC). All catheters were then manipulated with intermittent fluoroscopic guidance to achieve a final central position in the distal third of the SVC. A χ^2 test was used to compare initial and final PICC tip locations according to patient age, catheter size, accessed vein, and need for radiologist assistance. A t test was used to compare procedure time with and without radiologist assistance. RESULTS: Analysis included 843 consecutively placed pediatric PICCs, of which 723 (85.8%) had a noncentral initial PICC tip position and required additional manipulation. After catheter repositioning performed with intermittent fluoroscopic guidance, a final central PICC tip location was achieved in 760 PICCs (90.2%). CONCLUSION: Pediatric PICC placement without fluoroscopic guidance required catheter manipulation of initial PICC tip position in 723 cases (85.8%). PICC placement with fluoroscopic guidance is highly successful, and the authors believe it is best performed in an angiography suite.
116. **Greene AK. Burrows PE. Smith L., et al.**
Periorbital lymphatic malformation: Clinical course and management in 42 patients.
Plastic & Reconstructive Surgery. Vol. 115(1)(pp 22-30), 2005.
Abstract
Lymphatic malformation in the orbital cavity and surrounding region often causes disfigurement and visual problems. To better clarify the evolution and treatment of this condition, the authors studied a retrospective cohort of 42 consecutive patients seen between 1971 and 2003 and analyzed anatomic features, complications, and management. The ratio of female to male patients was 1:1. Most periorbital lymphatic malformations were noted at birth (59 percent), presenting as either unilateral swelling (60 percent) or a periorbital mass (24 percent). Sixty-two percent of lesions were on the left side. The ipsilateral cheek, temple, and forehead also were involved in 57 percent of patients. Twenty-two percent of lesions were intraconal, 30 percent were extraconal, and 48 percent were in both spaces. Forty-five percent of children had an associated cerebral developmental venous anomaly. Periorbital lymphatic malformation caused major morbidity; 52 percent of patients had intralesional bleeding and 26 percent of patients had a history of infection. Other common complications included intermittent swelling (76 percent), blepharoptosis (52 percent), proptosis (45 percent), pain (21 percent), amblyopia (33 percent), chemosis (19 percent), astigmatism (17 percent), and strabismus (7 percent). Ultimately, 40 percent of children had diminished vision and 7 percent became blind in the affected eye. Management of periorbital lymphatic malformation involved an interdisciplinary team that included an interventional radiologist, a craniofacial surgeon, and an ophthalmologist. The two therapeutic strategies were sclerotherapy (40 percent) and resection (57 percent); most patients required several interventions. A coronal approach was used for subtotal excision of fronto-temporal-orbital lymphatic malformation in 13 patients, whereas a tarsal incision was used for lesions isolated to the eyelid (n = 14). Ocular proptosis was temporarily managed by tarsorrhaphy (n = 9), but expansion of the bony orbit was



needed to correct persistent proptosis (n = 8). Orbital exenteration was necessary in two patients.

117. **Hetts SW.**

Interventional magnetic resonance imaging: The revolution begins.

In: Applied Radiology. Vol. 34(1 SUPPL.)(pp 84-91), 2005.

Abstract

Magnetic resonance-guided interventions offer the promise of seamless integration of anatomy and physiology without the use of ionizing radiation. Standard procedures, such as biopsy, tumor ablation, and endovascular stenting, can already be achieved with magnetic resonance imaging (MRI) safely and efficiently. Interventional MRI stands ready to be a gateway technology, allowing novel forms of noninvasive and minimally invasive therapies to be applied to a variety of diseases. Several applications that may spur interventional MR to be adopted widely are now visible on the horizon.

118. **Hoffer FA.**

Interventional radiology in pediatric oncology.

In: European Journal of Radiology. Vol. 53(1)(pp 3-13), 2005.

Abstract

There are many radiological interventions necessary for pediatric oncology patients, some of which may be covered in other articles in this publication. I will discuss a number of interventions including percutaneous biopsy for solid tumor and hematological malignancy diagnosis or recurrence, for the diagnosis of graft versus host disease after stem cell or bone marrow transplantation, and for the diagnosis of complications of immunosuppression such as invasive pulmonary aspergillosis. In the past, tumor localization techniques have been necessary to biopsy or resect small lesions. However improved guidance techniques have allowed for more precise biopsy and the use of thermal ablation instead of excision for local tumor control. A percutaneously placed radio frequency, microwave, laser or cryogen probe can ablate the primary and metastatic tumors of the liver, lung, bone, kidney and other structures in children. This is an alternative treatment for the local control of tumors that may not be amenable to surgery, chemotherapy or radiotherapy. I will also describe how chemoembolization can be used to treat primary or metastatic tumors of the liver that have failed other therapies. This treatment delivers chemotherapy in the hepatic artery infused with emboli to increase the dwell time and concentration of the agents.

119. **Kee ST. Ganguly A. Daniel BL., et al.**

MR-guided transjugular intrahepatic portosystemic shunt creation with use of a hybrid radiography/MR system.

In: Journal of Vascular & Interventional Radiology. Vol. 16(2 I)(pp 227-234), 2005.

Abstract

PURPOSE: To evaluate the performance of a combined hybrid radiography/magnetic resonance (MR) unit to guide portal vein (PV) puncture during human transjugular intrahepatic portosystemic shunt (TIPS) creation. **MATERIALS AND METHODS:** Fourteen patients undergoing TIPS creation were studied during standard clinical applications. Patients were anesthetized and then positioned in an open MR unit containing a flat-panel radiographic fluoroscopic unit. With use of a combination of fluoroscopy and MR imaging, the PV was accessed and the TIPS procedure was performed. A noncovered nitinol stent or a covered stent-graft was placed in the TIPS tract. Number of punctures required, total procedure time, fluoroscopy time, procedural success rate, complications, and ultrasonographic and clinical follow-up were recorded. **RESULTS:** Clinical success was obtained in 13 of 14 patients. In one patient, extrahepatic puncture of the PV occurred, resulting in hemorrhage and requiring placement of a covered stent to control the bleeding. The mean number of punctures required to access the PV was 2.6 +/- 1.7, and the total procedure time was 2.5 hours +/- 0.6. Mean fluoroscopy time was 22.3 minutes +/- 5.5. Results of clinical and ultrasonographic follow-up compare favorably to previously published reports. **CONCLUSION:** TIPS creation with a combination hybrid radiography/MR unit is feasible and may reduce the number of needle passes required and radiation exposure, with similar overall outcomes compared with studies reported in the literature.

120. **Kessel DO. Patel JV.**

Current trends in thrombolysis: Implications for diagnostic and interventional radiology.



In: Clinical Radiology. Vol. 60(4)(pp 413-424), 2005.

Abstract

Current trends in thrombolysis are of relevance to both diagnostic and interventional radiologists. In addition to the traditional use of thrombolytic therapy in conditions such as peripheral arterial thrombosis, venous thrombosis and pulmonary embolic disease, more recent interest has focused on the potential use of thrombolysis in acute stroke. There will be significant implications for the provision of radiological services if current trials show a favourable outcome for thrombolysis in stroke. This article looks at a range of conditions in which thrombolysis may be useful, on the strength of currently available evidence. Future trends will depend on the outcomes of the current trials.

121. **Korb W. Kornfeld M. Birkfellner W., et al.**

Risk analysis and safety assessment in surgical robotics: A case study on a biopsy robot.

In: Minimally Invasive Therapy & Allied Technologies: Mitat. Vol. 14(1)(pp 23-31), 2005.

Abstract

One of the most important issues in medical robotics is safety and integration into the clinical workflow. If a robot is not safe and its use is complicated by difficult handling and complex user interfaces physicians would not use a robotic system during clinical patient trials, whatever the other advantages are. However, there are only few publications on this topic, in particular on risk management in developing a robotic prototype (for clinical trials). In this paper risk management and the safety of using robot-assisted surgery equipment are discussed and demonstrated exemplarily in the process of developing a prototype biopsy robot.

122. **Lee FH. Worrell JA.**

Cultural competency in diagnostic imaging.

In: Academic Radiology. Vol. 12(2)(pp 232-236), 2005.

123. **Lencioni R. Cioni D. Crocetti L., et al.**

Early-stage hepatocellular carcinoma in patients with cirrhosis: Long-term results of percutaneous image-guided radiofrequency ablation.

In: Radiology. Vol. 234(3)(pp 961-967), 2005.

Abstract

PURPOSE: To perform a prospective, intention-to-treat clinical trial to determine the long-term survival rates of patients with hepatic cirrhosis and early-stage hepatocellular carcinoma (HCC) in whom percutaneous image-guided radiofrequency (RF) ablation was used as the sole first-line anticancer treatment. **MATERIALS AND METHODS:** The study was performed with approval of the ethics committee, and written informed consent was obtained for all patients. From June 1, 1996, to January 1, 2003, 206 patients (143 men, 63 women; age range, 51-81 years; mean age, 67 years +/- 7) who were excluded from surgery and who had Child class A or B cirrhosis with either a single HCC less than or equal to 5 cm in diameter or multiple (as many as three) HCCs less than or equal to 3 cm in diameter each were enrolled. RF ablation was performed in 187 (91%) of 206 patients; 19 (9%) were excluded from RF treatment because of unfavorable tumor location. Follow-up ranged from 3 to 78 months (mean, 24 months +/- 21) and included measurement of [alpha]-fetoprotein level, ultrasonography at 3-month intervals, and spiral computed tomography at 6-month intervals. Patients were observed for recurrence of the treated tumor and for the emergence of new HCC tumors. Survival probabilities were estimated with the Kaplan-Meier method, and differences between survival curves were evaluated with the log-rank test. **RESULTS:** At the end of the study, 145 patients were alive, and 61 were dead. In the intention-to-treat analysis, overall survival rates were 97% at 1 year, 67% at 3 years, and 41% at 5 years. Median survival was 49 months. In the 187 patients treated with RF ablation, overall survival rates were 97% at 1 year, 71% at 3 years, and 48% at 5 years. Median survival was 57 months. The difference between the two survival curves was not statistically significant ($P = .5094$). Survival of patients treated with RF ablation was dependent on Child class ($P = .0006$) and tumor multiplicity ($P = .0133$). Patients who had Child class A cirrhosis with solitary HCC ($n = 116$) had 1-, 3-, and 5-year survival rates of 100%, 89% and 61%; median survival was 65 months. The 1-, 3-, and 5-year recurrence rates were 14%, 49%, and 81% for the emergence of new tumors and 4%, 10%, and 10% for local tumor progression. **CONCLUSION:** RF ablation is an effective first-line treatment for cirrhotic patients with early-stage HCC who were



excluded from surgery.

124. **Levin DC. Rao VM. Bonn J.**
Turf wars in radiology: The battle for peripheral vascular interventions.
In: Journal of the American College of Radiology. Vol. 2(1)(pp 68-71), 2005.
Abstract
Interventional radiologists in many hospitals are involved in confrontations with cardiologists and vascular surgeons over who should be allowed to perform percutaneous noncardiac peripheral vascular interventions. There are valid reasons why radiologists should be the ones doing these procedures: first, because in any given hospital, radiologists are generally the physicians with the best training and most experience, and second, because they are generally not in a position to self-refer and will therefore be able to help keep utilization under control. If cardiologists or vascular surgeons request vascular interventional privileges at your hospital, there are steps you can take to see if they are properly qualified. If they are granted privileges, there are other steps you can take to ensure that high standards of patient care are maintained. The authors also present some discussion of how interventional radiologists can position themselves to either compete with or collaborate with the other clinical services. Throughout any confrontations that might occur, radiologists should stress that patients undergoing these procedures deserve the best possible care, which means that they should be performed by those physicians on the hospital staff who are the most knowledgeable and the least likely to commit medical errors.
125. **Levin DC. Rao VM. Parker L., et al.**
The changing roles of radiologists, cardiologists, and vascular surgeons in percutaneous peripheral arterial interventions during a recent five-year interval.
In: Journal of the American College of Radiology. Vol. 2(1)(pp 39-42), 2005.
Abstract
Purpose: This study aimed to determine the relative roles of radiologists, cardiologists, vascular surgeons, and other physicians in performing percutaneous peripheral arterial interventions and how these roles have changed over a recent 5-year period. Methods and Materials: The authors reviewed the Medicare Part B fee-for-service databases between 1997 and 2002 for the Current Procedural Terminology (4th ed.) (CPT-4) surgical procedure codes for percutaneous transluminal angioplasty (PTA) of noncardiac peripheral arteries (six codes), the transcatheter placement of noncardiac intravascular stents (two codes), and endovascular aortic stent graft placement (six codes). Using the Medicare physician specialty codes, procedure volume in each CPT-4 code was determined for radiologists, cardiologists, vascular surgeons, and other physicians. Percentage changes from 1997 to 2002 were calculated for PTA and intravascular stent placement procedures. Results: Between 1997 and 2002, the total Medicare procedure volume in the eight procedure codes relating to PTA and stent placement increased by 95%. In 2002, radiologists performed 72,657 of these procedures, cardiologists 62,901, vascular surgeons 17,895, and other physicians 19,666. Over the 5-year interval, procedure volume among radiologists increased 29%, among cardiologists by 181%, among vascular surgeons by 398%, and among other physicians by 195%. Radiologists' share in the total pool of procedures in 2002 was 42.0% (down from 63.3% in 1997), cardiologists' 36.3% (up from 25.2% in 1997), vascular surgeons' 10.3% (up from 4.0% in 1997), and other physicians' 11.4% (up from 7.5% in 1997). Trend data were not available for endovascular aortic stent graft procedures. Conclusion: Between 1997 and 2002, procedure volume in percutaneous peripheral arterial interventions grew at faster rates among cardiologists, vascular surgeons, and other physicians than it did among radiologists. As a result, radiologists' share of this market declined during the interval. However, procedure volume among radiologists continued to grow over the 5 years, and in 2002, they still had the largest share among the four physician specialty groups. Thus, despite the erosion, interventional radiologists still maintain a strong position in this rapidly growing field.
126. **Liss P. Eklof H. Hellberg O., et al.**
Renal effects of CO₂ and iodinated contrast media in patients undergoing renovascular intervention: A prospective, randomized study.
In: Journal of Vascular & Interventional Radiology. Vol. 16(1)(pp 57-65), 2005.
Abstract
PURPOSE: CO₂ gas has been proposed for use instead of iodinated contrast media in angiographic examinations in patients at risk of developing renal failure from contrast



media. The influence of intraarterial injection of CO₂ with small added amounts of ioxaglate (200 mg/ml) or ioxaglate alone on renal function in patients with suspected renal artery stenosis was studied in a prospective, randomized study. **MATERIALS AND METHODS:** One hundred twenty-three patients underwent renovascular intervention (n = 83) and/or renal angiography (n = 40) for suspected renal artery stenosis. Patients with a serum creatinine concentration less than 200 µmol/L (n = 82) were randomized prospectively to receive CO₂ with small added amounts of ioxaglate (n = 37) or only ioxaglate (n = 45). Patients with serum creatinine levels greater than 200 µmol/L (n = 41) were not randomized and initially received CO₂. Serum creatinine concentrations were measured within 1 day before and 1 day, 2 days, and 2-3 weeks after the procedure. **RESULTS:** The amount of injected CO₂ did not relate to an increase in serum creatinine level. In the randomized groups, and also when the whole patient sample was considered, the amount of injected iodine was significantly correlated (P = .011) with an increase in serum creatinine level and a decrease in estimated creatinine clearance after 2 days. Among the randomized patients, one in the CO₂ group and three in the ioxaglate group had a more than 25% increase in serum creatinine level within the first 2 days after the intervention. **CONCLUSION:** The risk of impairment of renal function is lower after injection of CO₂ with small amounts of added ioxaglate compared with injection of a larger amount of ioxaglate alone. The larger the amount of administered iodinated contrast medium, the greater the risk of development of renal failure.

127. **Marcovich R. Smith AD.**
 Percutaneous renal access: Tips and tricks.
 In: BJU International - Supplement. Vol. 95(2)(pp 78-84), 2005.
128. **Marret E. Gibert S. Bonnet F., et al.**
 Can epidurography help to predict the extent of epidural blockade?
 In: Anesthesiology. Vol. 102(2)(pp 478-479), 2005.
129. **Marx MV. Haskal ZJ. Kaufman JA., et al.**
 2005 SIR Annual Meeting film panel cases.
 In: Journal of Vascular & Interventional Radiology. Vol. 16(2 I)(pp 173-194), 2005.
130. **Mattioli S. D'Ovidio F. Daddi N., et al.**
 Transthoracic endosonography for the intraoperative localization of lung nodules.
 In: Annals of Thoracic Surgery. Vol. 79(2)(pp 443-449), 2005.
Abstract
 Transthoracic ultrasonography has been advocated for the localization of lung nodules during video-assisted thoracoscopic surgery (VATS) for nonperipheral nodules. Video-assisted thoracoscopic surgery for lung nodules was performed in 54 consecutive patients. Preoperative computed tomography (CT) diagnosed 65 lesions. Positron emission tomography (PET) identified 2 lesions not revealed by CT. All nodules were judged whether visible and/or palpable. Diameter and distance of the nodule from the anterior, lateral, and posterior chest wall were measured on CT scan and served in a discriminant analysis to predict which nodule would be neither visible nor palpable. The deflectable multifrequency (7.5 to 10 MHz) endosonography probe was used to identify the nonvisible and nonpalpable nodules. Resected nodules were 69; 67 diagnosed preoperatively, and 2 intraoperatively by ultrasonography. At VATS exploration 16 of 65 (25%) of the CT diagnosed nodules were nonvisible and nonpalpable. The discriminant analysis failed to predict correctly whether nodules would be visible and/or palpable in 33% because of surrounding severe emphysema, proximity to a fissure, or to the hylum. The endosonography identified 15 out of 16 of the nonvisible and nonpalpable nodules, thus conversion to thoracotomy was necessary for one nodule. The combination of video, palpatory, and endosonographic inspections had 98% sensitivity and 100% specificity in localizing the nodules. Intraoperative transthoracic ultrasonography is useful to guide VATS resection of lung nodules. It is a bedside tool, not requiring planning and coordination with the interventional radiology suite, thus you use it if you need it. It has no related morbidity, and may also have a role in revealing lesions occult at preoperative work-up.
131. **McLaren CA. Elliott MJ. Roebuck DJ.**
 Tracheobronchial intervention in children.



In: European Journal of Radiology. Vol. 53(1)(pp 22-34), 2005.

Abstract

Disorders of the major airways in children are often difficult to treat. Recent advances in interventional radiology are proving useful, for both assessment of the severity of the problem and treatment. Flexible bronchoscopy and bronchography are essential tools for diagnosis, intervention and follow-up. Echocardiography, computed tomography and magnetic resonance imaging may also be important for the evaluation of cardiovascular anomalies, which are often associated with airway obstruction. Surgery remains the first line of treatment for most congenital abnormalities of the airway and for cardiac anomalies that cause airway compression. Balloon dilatation and stenting are helpful in certain other conditions, as well as in children whose airway problem is not fully corrected by surgery. A multidisciplinary approach is required, with input from pediatric cardiothoracic surgeons, radiologists, radiographers, otolaryngologists, pulmonologists, anesthesiologists, intensivists, physiotherapists and liaison nurses.

132. **Middleton WD. Dasyam A. Teefey SA.**

Diagnosis and treatment of iatrogenic femoral artery pseudoaneurysms.

In: Ultrasound Quarterly. Vol. 21(1)(pp 3-17), 2005.

Abstract

Color Doppler is the procedure of choice for the diagnosis of iatrogenic femoral artery pseudoaneurysms. Although surgery is still necessary in a limited number of patients, most can be treated with ultrasound-guided thrombin injection. Success exceeds 90% and complications are much lower than surgery. Although rare, the major complication is embolization into the femoral artery. This can be minimized by using as little thrombin as possible, and by avoiding small pseudoaneurysms with short necks.

133. **Miller DL.**

Patient radiation dose from vertebroplasty and kyphoplasty

In: Radiology. Vol. 234(3)(pp 970-971), 2005.

134. **Mitchell RS. Ishimaru S. Criado FJ., et al.**

Third International Summit on Thoracic Aortic Endografting: Lessons from long-term results of thoracic stent-graft repairs.

In: Journal of Endovascular Therapy: Official Journal of the International Society of Endovascular Specialists. Vol. 12(1)(pp 89-97), 2005.

Abstract

Pressurization of the aneurysm sac results in an increase of size. It is reasonable to conclude that this result is from endoleak or endotension. The change of aneurysm size >5 to 10 mm is an adverse event and should be treated when possible. Endograft migration is a complication that will ultimately lead to endoleaks. Stent fractures themselves are not terribly important, unless they impact either the fabric or the integrity in the landing zones. Secondary endoleaks may become more common with longer follow-up and probably portend the same risk as a primary endoleak. Type I and III endoleaks should be treated even in the absence of aneurysm size increase. We do not yet know the optimal treatment for type II endoleak. Thrombus will confer no protection against aneurysm rupture. In terms of anatomy, we had close consensus on the 20-mm fixation length, which is primarily in undiseased aorta without thrombus. This almost always involves the lesser curve and the area you expect the endograft to cover, so you need to have a realistic estimate of the lesser curve length. Aortic diameters of 40 mm and above may be an aorta in transition and may be treated in elderly patients. In younger patients with good life expectancy, endograft repair of these aortas is not going to provide a durable long-term result. Angulation is best defined as the radius of curvature into the distal thoracic aorta. The proximal descending aorta has two major limitations: angle of curvature and the length of proximal fixation. The former may be device specific. We realize that there are significant limitations to the current endografts. There are no officially approved grafts in the US and Japan. In Europe, they are in the middle ground. This has been a huge problem in terms of being able to assess graft durability and performance. As more grafts are coming into the market, hopefully we will get more information and reasonable expectations for thoracic grafts. We have a fairly long wish list in terms of ideal grafts: they should be flexible and come with small introducer sheaths. Perhaps we should have different devices for different disease entities. We would like to have perfectly precise and easy deployment. Durability should not be sacrificed, not even for small introducer size. Fixation remains a



problem. If you can improve a means of fixation, we will have better endograft performance. Many of us would welcome a single-branch endograft. We could maneuver a graft with one branch into the subclavian artery; access into the celiac axis may not be as easy as we think. Technology will likely evolve to make some of these things easy for us.

135. **Murphy TP.**

American College of Radiology Practice Guideline for Interventional Clinical Practice: A commitment to patient care.

In: Journal of Vascular & Interventional Radiology. Vol. 16(2 I)(pp 157-159), 2005.

136. **Pothuri B. Montemarano M. Gerardi M., et al.**

Percutaneous endoscopic gastrostomy tube placement in patients with malignant bowel obstruction due to ovarian carcinoma.

In: Gynecologic Oncology. 96(2):330-4, 2005

Abstract

OBJECTIVES: To analyze the feasibility of using percutaneous endoscopic gastrostomy (PEG) tube placement in ovarian cancer patients with malignant bowel obstruction and to analyze the outcome of these patients. **METHODS:** We performed a retrospective review of all patients with ovarian carcinoma who underwent PEG tube placement between 1995 and 2002 at our institution. Abstracted data included patient demographics, procedure information, symptom resolution, diet tolerated, complications, further treatment, and survival. **RESULTS:** Ninety-four patients with ovarian carcinoma requiring PEG tube placement for malignant bowel obstruction were identified. The mean age at the time of PEG tube placement was 56 years. The mean interval from the initial cancer diagnosis to the placement of the PEG tube was 3.1 years. Twenty-two of 77 patients who had a computed tomography (CT) scan prior to PEG tube placement had tumor encasing the stomach. Fifty-nine (63%) of 94 patients had ascites, 25 of whom underwent a pre-PEG paracentesis (mean, 2845 ml). Ninety-four patients had a successful PEG tube placement under conscious sedation by the gastroenterology service (92) and/or by interventional radiology (2). Symptomatic relief, defined as no nausea or vomiting within 7 days of PEG tube placement, was noted in 86 (91%) of 94 patients undergoing PEG tube placement. Diets tolerated with and without the PEG tube being clamped were as follows: none, 3; sips, 9; liquids, 40; soft/regular, 40; and unknown, 2. The mean hospital stay after the procedure was 6 days. Eighteen patients had one or more of the following complications: leakage, 8; peristomal infection, 3; obstruction, 3; PEG tube migration, 2; catheter malfunction, 2; hemorrhage, 2; and peritonitis, 1. Nine patients required PEG tube revision due to complications. Chemotherapy after PEG tube placement was administered in 29 (31%) of the 94 patients, with resolution of obstruction and removal of the PEG tube in 4. In addition, 14 (15%) received limited total parental nutrition (TPN) after PEG tube insertion. Seventy-five (85%) of 88 patients died at home or under hospice care. The median overall survival for the 94 patients undergoing PEG tube placement was 8 weeks (95% CI, 6-10). Multivariate survival analysis revealed the presence of liver metastases ($P < 0.001$) and older age ($P = 0.01$) to be statistically significant predictors of shorter survival. The use of TPN after PEG tube placement was not a statistically significant prognostic factor in this model ($P = 0.09$). **CONCLUSIONS:** PEG tube placement in ovarian carcinoma is technically feasible and safe in the palliative setting. In addition, PEG tube placement allowed the majority of patients to have end-of-life care either at home or in an inpatient hospice. For the total population, no benefit was seen regarding survival with the use of TPN in this setting. Selected patients (younger age and without liver metastasis) may benefit from chemotherapy after PEG tube placement.

137. **Rabinowitz DA. Pretorius ES.**

Postgraduate radiology training in sub-Saharan Africa: A review of current educational resources.

In: Academic Radiology. Vol. 12(2)(pp 224-231), 2005.

Abstract

Rationale and Objective. Postgraduate training programs in radiology exist in several African nations. The ability of these programs to train radiologists is necessarily affected by local availability of educational resources, including clinical case volume, radiology equipment and maintenance, number of teaching faculty, and library and computer facilities. We sought to determine the current resources of a sample of African radiology education programs. **Materials and Methods.** Site visits were conducted at three separate radiology training



- programs, one in Ghana and two in South Africa. At each site, the investigator conducted a technology census, assessed library resources, observed daily trainee activities, and interviewed trainees, faculty, and statisticians. Results. African radiology trainees receive considerable training in fluoroscopy, ultrasound, and plain film radiography, but receive considerably less training in nuclear medicine, mammography, magnetic resonance imaging, and interventional radiology. A large amount of equipment in African teaching hospitals is inoperative because of lack of maintenance programs. Faculty to resident ratios in African teaching hospitals are much lower than in American hospitals. Needs of training programs vary greatly from hospital to hospital, and from country to country. Conclusion. Radiologists, radiology organizations, and radiology vendors from high-income nations are in a unique position to help Africa's postgraduate radiology training programs fulfill their mission of training Africa's next generation of radiologists. It is desirable that long-term commitments be made to teaching hospitals so that scarce donated resources may be put to the best possible use.
138. **Sacks D.**
Response to the ACC/ACP/SCAI/SVMB/SVS clinical competence statement on catheter-based peripheral vascular interventions.
In: Journal of Vascular & Interventional Radiology. Vol. 16(1)(pp 1-4), 2005.
139. **Schwartz DC. Lucey MR. McDermott JC., et al.**
Variceal bleeding refractory to endoscopic management: Indications and use of balloon tamponade, interventional radiology, and surgical treatment.
In: Techniques in Gastrointestinal Endoscopy. Vol. 7(1)(pp 49-58), 2005.
Abstract
In summary, operative therapy presently has a limited role in patients with variceal bleeding. Most patients can be successfully managed with a combination of drug and endoscopic therapy. Portal decompression needs to be considered for those individuals failing these less invasive treatments. Whether TIPS or an operative shunt should be done still remains somewhat controversial. However, because of its better patency over a long period of time, a selective shunt may be the best option for those with good hepatic functional reserve. Liver transplantation can then serve as a salvage therapy if and when hepatic failure ensues. Patients with poor hepatic functional reserve are probably best served by a TIPS as they are likely to die from their liver disease before TIPS occlusion develops. A devascularization operation is the only alternative for patients with diffuse splanchnic venous thrombosis when drug and endoscopic therapy have failed to control bleeding. Finally, there is no single magic bullet for the management of these patients. The thoughtful practitioner realizes that sequential therapies are often necessary and that they may eventually lead to liver transplantation.
140. **Sever AR. O'Brien MER. Humphreys S., et al.**
Radiopaque coil insertion into breast cancers prior to neoadjuvant chemotherapy.
In: Breast. Vol. 14(2)(pp 108-117), 2005.
Abstract
Between May 1998 and December 2002, neoadjuvant chemotherapy was given to 81 women aiming to reduce tumour size and avoid mastectomy. A coil was inserted under ultrasound guidance into the tumour before treatment started. The impact of coil placement on subsequent surgery was assessed prospectively. Clinical response was seen in 69 patients and breast conservation was achieved in 60 cases. In 19 cases (23%) mammography and ultrasound were normal and localization was achieved exclusively by use of the coil. Eight of these 19 (10% of the total) had a complete pathological response; however in the remaining 11 cases (13%) there was residual invasive cancer. This study suggests that in patients undergoing neoadjuvant chemotherapy surgery is still appropriate even when clinical response appears complete. The use of the coil identifies 13% of patients with otherwise undetectable residual disease and is a valuable guide in identifying the site for further surgery.
141. **Struelens L. Vanhavere F. Bosmans H., et al.**
Effective doses in angiography and interventional radiology: calculation of conversion coefficients for angiography of the lower limbs.
In: British Journal of Radiology. 78(926):135-42, 2005
Abstract
The present study reports on investigations that we have performed to allow the calculation

of effective doses (E) in interventional radiology. The use of published conversion tables might not allow sufficient guidance for the establishment of optimization strategies for procedures in interventional radiology. With the Monte Carlo N-Particle transport code (MCNP4B), conversion coefficients, linking dose-area product (DAP) measurements with E, are calculated for angiography of the lower limbs in six hospitals. The influence of various parameters on the calculation of these conversion coefficients is studied in a systematic way using the 2(n) factorial design. In this design the effect of different parameters and their pair-wise interactions on a certain variable is explored. In our study, the relevant parameters are tube potential, total filtration and field size and position. We concluded that the influence of radiation spectrum (kVp + filtration) is large and that the effect of field position and size is moderate, except when differences are observed in respect of the gonads. In that case, the variation in conversion coefficients is large. The results of this statistical analysis are then applied to the differences observed between the conversion coefficients, calculated for angiography of the lower limbs in the six hospitals. Recommendations for optimization of patient doses are given.

142. **Toma TP. Geddes DM. Shah PL.**
Brave new world for interventional bronchoscopy.
In: Thorax. Vol. 60(3)(pp 180-181), 2005.
143. **Van Ha TG. Keblinskas D. Funaki B., et al.**
Removal of Gunther Tulip vena cava filter through femoral vein approach.
In: Journal of Vascular & Interventional Radiology. Vol. 16(3)(pp 391-394), 2005.
Abstract
The Gunther Tulip vena cava filter is designed for removal by the internal jugular vein approach with use of a blunted hook placed at the superior aspect of the filter. Removal of this filter was performed by the femoral approach in a patient with central venous occlusion that precluded removal by the conventional approach.
144. **Verbeeck N. Lacroix J.**
Post-cardiac catheterization femoral fistula corrected by ultrasound-guided compression.
In: Journal Belge de Radiologie. Vol. 88(1)(pp 7-11), 2005.
Abstract
We present a case of post-cardiac catheterization femoral fistula diagnosed by color and pulsed Doppler sonography and treated by ultrasound-guided compression. We avail ourselves of the case to review the echo Doppler semiology of the different types of arteriovenous fistulas with an emphasis on the functional analysis of the dialysis accesses. We also stress the therapeutic options in front of undesirable shunts.
145. **Wells IP. Melvin C. Bodley R., et al.**
Managing errors in radiology: A working model (multiple letters)
In: Clinical Radiology. Vol. 60(2)(pp 275-276), 2005.
146. **Werner J. Feuerbach S. Uhl W., et al.**
Management of acute pancreatitis: From surgery to interventional intensive care.
In: Gut. Vol. 54(3)(pp 426-436), 2005.
Abstract
In recent years, treatment of severe acute pancreatitis has shifted away from early surgical treatment to aggressive intensive care. While the treatment is conservative in the early phase, surgery might be considered in the later phase of the disease. Surgical debridement is still the 'gold standard' for treatment of infected pancreatic and peripancreatic necrosis. Advances in radiological imaging, new developments in interventional radiology, and other minimal access interventions have revolutionised the management of many surgical conditions over the past decades. Several interventional therapy regimens, including endoscopic retrograde cholangiopancreatography (ERCP) and sphincterotomy, fine needle aspiration for bacteriology (FNAB), percutaneous or endoscopic drainage of peripancreatic fluid collections, pseudocysts, and late abscesses, as well as selective angiography and catheter directed embolisation of acute pancreatitis associated bleeding complications have been well established as diagnostic and therapeutic standards in the management of acute pancreatitis. Secondary to recent technical improvements in interventional therapy and minimally invasive surgery, even infected pancreatic necrosis has successfully been treated in selected patients. However, technical feasibility does not obviate sound clinical judgement. We must be cautious in the



application of new technologies in the absence of well designed clinical trials. Thus minimally invasive surgery and interventional therapy for infected necrosis should be limited to clinical trials and specific indications in patients who are critically ill and otherwise unfit for conventional surgery.

147. **Wiebe S. Cohen J. Connolly B., et al.**
Percutaneous decompression of the bowel with a small-caliber needle: A method to facilitate percutaneous abdominal access.
In: American Journal of Roentgenology. Vol. 184(1)(pp 227-229), 2005.
Abstract
OBJECTIVE. In our pediatric interventional practice, we have found that occasionally a loop of bowel is interposed between the stomach and the anterior wall of the abdomen, preventing safe needle access for procedures such as placement of a gastrostomy tube. The use of a small-caliber needle to aspirate air from the colon or small bowel, for bowel decompression, may be a safe way to aid in establishing a safe access route for the subsequent percutaneous introduction of larger needles or tubes. CONCLUSION. Our retrospective review of patients who have undergone bowel-gas aspiration during an interventional procedure shows that the aspiration of air from the colon with a small-caliber needle is technically easy and may permit completion of an abdominal procedure.
148. **Wiebers DO.**
Patients with small, asymptomatic, unruptured intracranial aneurysms and no history of subarachnoid hemorrhage should generally be treated conservatively: For.
In: Stroke. Vol. 36(2)(pp 408-409), 2005.
149. **Youssef IM. Milardovic R. Perone RW., et al.**
Importance of Tc-99m sulfur colloid liver-spleen scans performed before indium-111 labeled leukocyte imaging for localization of abdominal infection.
In: Clinical Nuclear Medicine. Vol. 30(2)(pp 87-90), 2005.
Abstract
Introduction: The localization of intraabdominal abscesses is a difficult imaging problem in nuclear medicine, especially when the location of the abscess is in the area of the liver and spleen. The need for performing Tc-99m sulfur colloid liver-spleen scans before injecting indium-111 leukocytes for improved lesion detection and characterization versus performing In-111 leukocyte scans alone has been questioned in the literature Materials and Methods: We present 3 patients with intraabdominal abscesses in the liver-spleen area, in which liver-spleen scans were performed before In-111 leukocyte scans. The findings of all were correlated with computed tomography and interventional procedures. Results: In all patients, the Tc-99m liver-spleen scan helped for accurate recognition of the location of the abscess, correlated with computed tomography findings, and were helpful for intervention and exclusion of the other sources of infection. Conclusion: Data from these 3 patients reinforces the need for Tc-99m sulfur colloid liver-spleen scans before performing In-111 WBC scans for better localization and interventional treatment of intraabdominal abscesses.

Neuroradiológia

1997

150. **Kenéz József.**
A korszerű stroke-ellátás képzési gyakorlata.
In: Agyérbetegségek. - 1997. 4. sz., p. 6-13.

1998

151. **Kenéz József.**
A digitális képzési diagnosztika gyakorlata : nehézségek és remények.
In: Orvostovábbképző szemle. - 1998. 5. évf. 3. sz., p. 12-15.

1999



152. **Várady Péter - Prasad Dheerendra - Nyáry István, et al.**
Gamma-kés idegsebészet.
In: Orvosi Hetilap (1999). - 1999. 140. évf. 7. sz., p. 331-345.

2000

153. **Balogh Endre - Chastanet, Patrick - Cotten, Anne**
Percutan vertebroplastica.
In: Osteologiai közlemények. - 2000. 8. évf. 4. sz., p. 209-212.
154. **Bereczki Dániel - Gulyás Balázs - Csiba László**
A központi idegrendszer vérkeringésének és anyagcseréjének vizsgálata kísérletes és klinikai képalkotó eljárásokkal.
In: Ideggyógyászati szemle - 2000. 53. évf. 3/4. sz., p. 77-92.
The authors review the most important techniques used to image blood flow and metabolism of the central nervous system in animal experiments and clinical studies. A summary of the principles and the history of the methods are given and examples are shown to demonstrate the sensitivity and resolution of different techniques. Of the methods used in animal experiments the authors show examples for regional biochemical imaging based on fluorescence, bioluminescence and color reactions as well as autoradiography. Among the clinical investigations for imaging cerebral blood flow techniques based on dynamic scintigraphy, photon emission and positron emission tomography are summarized. The authors list possibilities for imaging glucose-, oxygen and protein metabolism and regional cerebral blood volume. Examples are shown for the different application areas of clinical imaging, among them receptor studies and clinical pharmacological investigations.

2001

155. **Borbély Katalin.**
Funkcionális képalkotó vizsgálatok demenciában : 1. r.
In: Agyérbetegségek. - 2001. 7. évf. 1. sz., p. 11-19.
156. **Borbély Katalin.**
unkcionális képalkotó vizsgálatok demenciában : 2. r..
In: Agyérbetegségek. - 2001. 7. évf. 2. sz., p. 2-8.
157. **Borbély Katalin.**
Funkcionális képalkotó vizsgálatok mozgászavarokban.
In: Orvosi Hetilap. - 2001. 142. évf. 43. sz., p. 2347-2355.
Positron Emission Tomography (PET) and Single Photon Emission Computed Tomography (SPECT) highly contribute to the management of patients with movement disorders by measuring regional cerebral metabolism/blood flow and dopamine receptors. Imaging of the dopaminergic system is a powerful tool for distinguishing patients with neurodegenerative disorders, such as Parkinson's disease. Parkinsonism is most of the time caused by idiopathic Parkinson's disease. Considering the differences in therapeutic response and prognosis, differentiation between Parkinson's disease and "parkinsonism-plus syndromes" is important. Visualisation of pre- and postsynaptic D2 dopamine receptors by using receptor ligands helps to discriminate between Parkinson's disease and "parkinsonism-plus syndromes" as Parkinson's disease is a presynaptic disease. Early disease detection in subjects suspected at risk for developing Parkinson's disease has become possible using ligands for the dopamine transporter. Functional imaging modalities are useful in the management of patients with movement disorders, are able to monitor in an objective way the efficacy of new pharmacological therapies, can document the effect of neuronal grafting for Parkinson's disease, and delineate the progression of these diseases.

2002

158. **Naul, L. Gill - Santiago, Jose M**
Az új neuroradiológiai eszközök optimális alkalmazása.
In: Orvostovábbképző szemle. - 2002. 9. évf. 9. sz., p. 63-67.



2003

159. **Dominich Sándor - Góth Júlia - Kiezer Tamás, et al.**
NeuRadIR: Neuroradiológiai Információ-visszakereső Rendszer
In: IME. - 2003. 2. évf. 1. sz., p. 41-45.
160. **Viola Árpád. - Major Tibor. - Valálik István, et al.**
Akusztikus neurinoma kezelése képfúzió-vezérelt szövetrokői 125-jód-izotóp-besugárással :
új műtéti eljárás
In: Ideggyógyászati szemle. - 2003. 56. évf. 9/10. sz., p. 309-315.

2005

161. **Alexander AS. Turner R. Uniate L., et al.**
Xanthoma disseminatum: A case report and literature review.
In: British Journal of Radiology. Vol. 78(926)(pp 153-157), 2005.
Abstract
This case report describes the neuro-ophthalmologic and respiratory manifestations of xanthoma disseminatum, a rare histiocytosis syndrome characterized by disseminated lesions in a young male adult. Multimodality management of this disease, including the role of local radiotherapy, is discussed accompanied by a review of the literature.
162. **Aydin Y. Kaya RA. Can SM., et al.**
Minimally invasive anterior contralateral approach for the treatment of cervical disc herniation.
In: Surgical Neurology. Vol. 63(3)(pp 210-218), 2005.
Abstract
Background: During the practice of ipsilateral approach to the offending lesion in anterior simple discectomy, the authors realized that it achieves better surgical exposure of the opposite foraminal area. In addition, it was also realized that routine procedures for better visualization of the foraminal area, such as stripping longus colli muscles, further excising of the anterior longitudinal ligament, or using a spreader, which cause more invasive surgery during the standard anterior approach, are not necessary because the contralateral approach already achieves sufficient exposure of the target foraminal area. Objective: Evaluation of the results and effectiveness of this minimal invasive technique in patients with either soft or hard disc herniations. Methods: Between January 1994 and April 2002, 216 patients underwent anterior contralateral microdiscectomy without fusion for cervical disc herniation at 1 or 2 adjacent levels. Anterior contralateral microdiscectomy is a less invasive technique than standard anterior simple discectomy in which longus colli muscles are not stripped, and the lateral part of annulus fibrosus at the side of intervention and ventrolateral part of it at the opposite side are not removed. In addition, a mini Zenker handheld retractor is used for retraction of paravertebral soft tissues and a spreader is not used during the discectomy procedure. There were 182 patients diagnosed with radiculopathy and 34 patients with myelopathy. Assessments of the neurological status of patients with radiculopathy were done by physical examinations, and of those with myelopathy according to the modified Japanese Orthopaedic Association cervical spine functional assessment scale. These neurological assessments were repeated in the 18th month after surgery. In the follow-up period, the outcomes of surgery were also assessed for all patients in 4 categories, from failure to excellent. Results: Surgery outcomes generally have been good to excellent and none of the patients were made worse by the procedure. The outcomes were significantly better in the radiculopathy and soft disc herniation groups. Other positive outcome factors were short duration and sudden onset of symptoms, normal cervical curvature, and single-level disease. Follow-up radiological studies revealed fibrous healing with normal or slight loss of disc height in 199 (92.1%) patients and total obliteration of the involved disc space representing radiological fusion signs in 13 (6%) patients. The overall complications observed in this study were 2 spontaneous and 2 postinfection collapses of disc level, 1 excessive fibrosis of disc level, and 2 adjacent-level diseases. Conclusion: Anterior contralateral microdiscectomy without fusion achieves better exposure for resection of the offending foraminal or far lateral lesions, ventral osteophytes, or a disc fragment under direct microscopic visualization. Collapse and instability of the involved disc level can also be avoided via this less invasive technique.



163. **Beisse R. Muckley T. Schmidt MH., et al.**
Surgical technique and results of endoscopic anterior spinal canal decompression.
In: Journal of Neurosurgery Spine. 2(2):128-36, 2005
Abstract
OBJECT: Decompression of the spinal canal in the management of thoracolumbar trauma is controversial, but many authors have advocated decompression in patients with severe canal compromise and neurological deficits. Anterior decompression, corpectomy, and fusion have been shown to be more reliable for spinal canal reconstruction than posterior procedures; however, traditional anterior-access procedures, thoracotomy, and thoracoabdominal approaches are associated with significant complications. Endoscopy-guided spinal access avoids causing these morbidities, but it has not been shown to yield equivalent results in spinal canal clearance. This study was conducted to demonstrate the effectiveness of endoscopic spinal canal decompression and reconstruction quantitatively by using pre- and postoperative computerized tomography (CT) scanning. METHODS: Thirty patients with thoracolumbar canal compromise underwent endoscopic anterior spinal canal decompression, interbody reconstruction, and stabilization for fractures (27 cases), and tumor, infection, and severe degenerative disc disease (one case each). The mean follow-up period was 42 months (range 24 months-6 years). Neurological examinations, Frankel grades, radiological studies, and intraoperative findings were prospectively collected. Spinal canal clearance quantified on pre- and postoperative CT scans improved from 55 to 110%. A total of 25% of patients with complete paraplegia and 65% of those with incomplete neurological deficit improved neurologically. The complication rate was 16.7% and included one reintubation, two pleural effusions, one intercostal neuralgia, and one persistent lesion of the sympathetic chain. CONCLUSIONS: The authors describe the endoscopic technique of anterior spinal canal decompression in the thoracolumbar spine. The morbidities associated with an open procedure were avoided, and excellent spinal canal clearance was accomplished as was associated neurological improvement.
164. **Benzinger TLS.**
Radiologic approach to Alzheimer's disease and other dementias: The emerging role of discussion tensor magnetic resonance imaging.
In: Applied Radiology. Vol. 34(1 SUPPL.)(pp 25-33), 2005.
Abstract
Alzheimer's disease (AD) is the most common cause of dementia and the third leading cause of death in the elderly in the United States. Currently, the diagnosis of AD relies upon clinical neurological assessment combined with conventional computed tomography or magnetic resonance imaging (MRI) to exclude other potential etiologies for the patient's dementia. Recently, however, there has been a large volume of research in imaging tests for AD, most notably in the application of diffusion-based MRI. The development of imaging techniques for AD may provide important information for early diagnosis of the disease, for monitoring of disease progression, and for assessing response to therapies. This paper reviews the current imaging tests available for AD, from current clinical protocols to specialized examinations to research protocols, with special emphasis on diffusion tensor MRI.
165. **Bermejo E. Felix V. Lapunzina P., et al.**
Craniofacial dyssynostosis: Description of the first four Spanish cases and review.
In: American Journal of Medical Genetics. Vol. 132 A(1)(pp 41-48), 2005.
Abstract
Craniofacial dyssynostosis (CD) is characterized by premature fusion of the lambdoid and posterior part of the sagittal sutures, and short stature. Thus, the skull shape becomes dolichocephalic with protuberant forehead and either bulging or flat occiput. Facial changes are secondary to the skull defects, and some additional findings have also been described. We report on the first four known Spanish patients. They were unrelated and had Spanish ancestors. In the three previous reports about this syndrome, the authors hypothesized that the frequency of the gene causing CD must be rather high in the Spanish population, and relatively common in areas with Spanish ancestry. We have estimated the minimal birth prevalence of the syndrome in 0.51 per million livebirths. It has been previously suggested that the syndrome is inherited as an autosomal recessive trait, since there were two affected sisters among the nine published cases. Phenotypic variability is discussed in detail in this paper. We also underline several aspects for the anticipatory guidance of affected individuals, especially recommending a neurologic evaluation taking into account the radiologic findings in

order to plan early interventions to avoid undesirable consequences of craniosynostosis. It is also recommended to perform additional studies (ophthalmologic, cardiologic, among others) to rule out the existence of associated anomalies, which are more frequent than previously considered.

166. **Bilge I. Sadikoglu B. Emre S., et al.**

Central nervous system vasculitis secondary to parvovirus B19 infection in a pediatric renal transplant patient.

In: Pediatric Nephrology. Vol. 20(4)(pp 529-533), 2005.

Abstract

Central nervous system (CNS) vasculitis secondary to chronic parvovirus B19 (B19) infection presenting with recurrent neurological findings is a very rare disorder during childhood. Here we report a 12-year-old boy with a renal transplant who had chronic B19 infection with skin eruptions and recurrent episodes of encephalopathy with focal neurological deficits. B19 DNA was detected in blood, bone marrow, and skin biopsy specimens. Repeat cranial magnetic resonance (MR) imaging during each episode of encephalopathy showed variable focal findings, and MR angiography revealed vasculitic changes with narrowing of the cerebral arteries. We hypothesized that the CNS vasculitis might be associated with the chronic B19 infection. At the time of his fourth presentation with the same clinical findings, we administered intravenous immunoglobulin (IVIG) (1 g/kg per day, 2 consecutive days), which we continued for 6 months, at monthly intervals. IVIG therapy resulted in remission and has been effective not only for the clearance of B19, but also for the improvement of clinical and radiological findings of CNS vasculitis. We suggest that chronic B19 infection should be considered in immunocompromised patients with suspected CNS vasculitis. IVIG should be considered as a part of the treatment.

167. **Bohr VA. Sander M. Kraemer KH.**

Rare diseases provide rare insights into DNA repair pathways, TFIIH, aging and cancer.

In: DNA Repair. Vol. 4(2)(pp 293-302), 2005.

Abstract

The study of rare human diseases has been instrumental in the development of our understanding of human DNA repair processes. This meeting focused on three disorders of DNA repair and transcription: Cockayne syndrome (CS), xeroderma pigmentosum (XP) and trichothiodystrophy (TTD). For the first time, clinicians, basic researchers and patient advocates met together, shared information and discussed their needs and goals. Cancer susceptibility varies greatly from more than 1000-fold increase in XP to normal in CS and TTD. Some patients with CS, XP or TTD have progressive neurological degeneration. The clinical diagnosis of these disorders involves evaluation by several specialties including neurology, dermatology, radiology, pathology and genetics. There is a pressing need for a laboratory to perform clinically certified diagnostic testing in the US. These diseases are quite complex and overlap syndromes have been found. Each can arise from mutations in more than one gene and conversely, different mutations in one gene can give rise to more than one clinical disease. Some of the proteins that are defective in these disorders function in both DNA repair and transcription. They respond to UV and oxidative DNA damage and involve varied functions such as DNA unwinding, transcription initiation, protein ubiquitination, nuclear receptor phosphorylation, promoter release and myc homeostasis. Mouse models offer the possibility of exploring the effects of complex interactions among these genes. These issues were all discussed at a recent workshop.

168. **Boockvar JA. Stiefel M. Malhotra N., et al.**

Dural cavernous angioma of the posterior sagittal sinus: case report.

In: Surgical Neurology. 63(2):178-81; discussion 181, 2005

Abstract

BACKGROUND: Extraaxial cavernous hemangiomas (cavernomas) are very rare lesions, and less than 20 descriptions of these lesions outside the middle fossa have been reported. In this report, we describe a dural cavernous angioma involving the posterior sagittal sinus and discuss the clinical, radiological, operative, and histological features of this very uncommon lesion. **CASE DESCRIPTION:** A 31-year-old right-handed male presented with headache and decreasing visual acuity. Severe bilateral papilledema was found on fundoscopic examination. Neurological examination demonstrated a minor right temporal field cut. Brain magnetic resonance imaging with contrast demonstrated a 2.5 x 2.5 cm hyperintense enhancing mass



in the midline, which was contiguous with the posterior margin of the falx cerebri. The patient underwent a bilateral occipital craniotomy centered on the lesion. The histological features were consistent with cavernous angioma. **CONCLUSION:** This report demonstrates that although extra axial cavernomas are quite rare, they must be included in the differential diagnosis of enhancing lesions along the posterior sagittal sinus. The operative removal of these lesions can be quite treacherous and usually requires a careful reapproximation of the patent sinus after lesion excision.

169. **Bradshaw JW. Jansen JC.**

Management of vagal paraganglioma: Is operative resection really the best option?.

In: Surgery. Vol. 137(2)(pp 225-228), 2005.

Abstract

Vagal paragangliomas cannot be resected without sacrifice of the vagal nerve. The risk of bilateral vocal cord palsy has been reason to postpone treatment of this benign and slow growing neoplasm in hereditary cases. Postponement could be considered for solitary cases as well. An institute-based review of 48 patients with vagal paragangliomas over the past 30 years was performed. Forty-eight patients with 58 vagal paragangliomas were studied. All but 4 patients had multiple paragangliomas and should be considered hereditary cases. The 10 patients that underwent an operation lost the vagal nerve; 60% of them had additional cranial nerve palsy postoperatively. In the group of patients who were followed for an average period of 8.5 years, 3 patients (8%) developed cranial nerve palsy. Aggressive treatment of vagal paragangliomas leads to unnecessary early loss of vagal nerve function. A period of clinical and radiologic follow-up preceding an operation may lead to prolonged preservation of voice and swallowing functions in these patients, without grave consequences for other lower cranial nerves.

170. **Cagavi F. Tekkok IH. Akpınar G.**

Malignant cerebral infarction secondary to internal carotid injury in closed head trauma: Good outcome with aggressive treatment - A case report.

In: Angiology. Vol. 56(1)(pp 107-114), 2005.

Abstract

A 25-year-old male patient in whom occlusion of the internal carotid artery developed secondary to a skull base fracture is presented. The diagnosis of internal carotid artery occlusion was reached 12 hours after the admission and 17 hours after the injury. The patient was initially treated for ischemic edema and when the patient showed signs of cerebral herniation, decompressive craniectomy was necessary. The outcome was good. The clinical and radiologic characteristics of internal carotid artery occlusion in closed head injury are highlighted and treatment options are reviewed in light of pertinent literature.

171. **Caroli M. Locatelli M. Prada F., et al.**

Surgery for intracranial meningiomas in the elderly: a clinical-radiological grading system as a predictor of outcome.

In: Journal of Neurosurgery. 102(2):290-4, 2005

Abstract

OBJECT: A grading system, called the Clinical-Radiological Grading System (CRGS), has been developed to standardize surgical indications in elderly patients harboring intracranial meningiomas. Patients with a score lower than 10 had a bad prognosis regardless of surgical treatment, those with a score between 10 and 12 had a prognosis positively influenced by surgery, and those with a score higher than 12 had a good prognosis regardless of surgical treatment. The authors performed a prospective cross-sectional study to validate further the use of the CRGS as a clinical tool to orientate surgical decision making in elderly patients and to explore prognostic factors of survival. **METHODS:** From 1990 to 2000 the authors consecutively recruited and surgically treated 90 patients 70 years of age or older with neuroimaging findings of intracranial meningiomas and a preoperative evaluation based on the CRGS. The surgical mortality rate, which covers deaths within 3 months after surgical intervention, was 7.8%, and the 1-year mortality rate was 15.6%. Female sex and a higher CRGS score were associated with a higher probability of survival. Among the different subset items of the CRGS score, no peritumoral edema for surgical survival and no concomitant diseases for 1-year survival provide the strongest predictive contribution, even if not at a statistically significant level. **CONCLUSIONS:** The CRGS score is a useful and practical tool for the selection of elderly patients affected by intracranial meningiomas as surgical



candidates. A CRGS score higher than 10 and female sex are good prognostic factors of survival. whereas age is not a contraindication to surgery.

172. **Cerchietti LCA. Bonomi MR. Navigante AH., et al.**
Phase I/II study of selective cyclooxygenase-2 inhibitor celecoxib as a radiation sensitizer in patients with unresectable brain metastases.
In: Journal of Neuro-Oncology. Vol. 71(1)(pp 73-81), 2005.
Abstract
Purpose: The primary goal of this phase I/II study was to evaluate the feasibility, safety and efficacy of celecoxib administered concomitant to radiotherapy to treat unresectable BM.
Patients and methods: Patients with measurable BM by CT or MRI, unresectability criteria by a neurosurgeon and RPA-RTOG class II were eligible. Celecoxib was administered at 400 mg/day during the entire course of radiotherapy. All patients were irradiated with ⁶⁰Co beams to whole-brain dose of 32 Gy (20 fractions of 1.6 Gy each two times a day with a 6 h interval between treatments) followed by a 22.4 Gy boost (same fractionation schedule) over evident lesions. Results: Twenty-seven patients were treated. The concurrent regimen was well tolerated with 15 cases of mild dyspepsia. Alopecia (NCI grades 1-2) was the most important side effect. Three patients presented rash/ desquamation of moderate intensity. Radiological responses occurred in 18 of 25 valuable patients (72), with five complete responses (CR). Symptomatic responses were reported in 25 of 27 patients (92.6), with 20 CR. The overall response rate (considering complete plus partial responses) was 66.7. Percentile 50 for time-to-progression, time-to-neurological-progression and functional-independence-time were 3, 6.25 and 6.7 months, respectively. Median survival time was 8.7 months. Conclusion: Our initial results suggest that radiotherapy plus celecoxib is safe and a possible active treatment for patients with BM. Further investigation in a randomized trial is warranted to validate its clinical utility.
173. **Chan KH. Tsang KL. Fong GCY., et al.**
Idiopathic severe recurrent transverse myelitis: A restricted variant of neuromyelitis optica.
In: Clinical Neurology & Neurosurgery. Vol. 107(2)(pp 132-135), 2005.
Abstract
Recurrent idiopathic transverse myelitis occur in multiple sclerosis (MS) and neuromyelitis optica (NMO). In NMO, acute optic neuritis and myelitis occur, either monophasic or relapsing, without clinical manifestations of involvement of other parts of the central nervous system (CNS). Recent evidence suggests that NMO is different from multiple sclerosis. The authors reported two patients having severe recurrent transverse myelitis sparing the optic nerves and cerebral hemispheres. Both patients had longitudinally extensive myelitis in some attacks with poor neurological outcome despite aggressive immunomodulatory therapy. One patient had prominent clinical features of brainstem injury with radiological and histological confirmation of brainstem involvement, and the other patient had trigeminal neuralgia suggestive of possible brainstem dysfunction. Histologically, prominent necrosis and neutrophilic infiltration of spinal cord tissue without eosinophils or hyalinized vessels were observed, and oligoclonal bands were absent in their cerebrospinal fluid. It is likely to be a distinct idiopathic inflammatory demyelinating disorder restricted to the spinal cord and brainstem different from MS, but within the spectrum of NMO with probably an autoimmune basis.
174. **Chiesa A.**
Preface.
In: European Radiology. Vol. 15(3)(pp 407), 2005.
175. **Day TA. Beas RA. Schlosser RJ., et al.**
Management of paranasal sinus malignancy.
In: Current Treatment Options in Oncology. Vol. 6(1)(pp 3-18), 2005.
Abstract
Malignancies of the nasal cavity and paranasal sinuses represent a wide spectrum of histologies, tissues of origin, and anatomic primary sites. The inherent difficulty in generalizing treatment approaches is obvious, given the numerous variables associated with the broadly-based term, paranasal sinus malignancy (PNSCa). Nevertheless, the majority of epithelial and salivary malignancies of this region (ie, squamous cell carcinoma, adenocarcinoma, adenoid cystic carcinoma, sinonasal undifferentiated carcinoma, and esthesioneuroblastoma) require surgical intervention as part of any treatment regimen. Recent trends have broadened the



indications for chemotherapeutic and radiotherapeutic options in the management of advanced PNSTCa. Nonepithelial malignancies, including the wide variety of sarcomas arising in this region, most commonly require multimodality treatment including chemotherapy, radiation, and/or surgery for definitive treatment. Moreover, the proximity of the nasal cavity and paranasal sinuses to structures including the orbit, dura, brain, cranial nerves, and carotid arteries mandates careful radiologic and neurologic evaluations throughout the course of the disease. Surgical advances now permit complex tumor removal and reconstruction surrounding these structures resulting in functional and cosmetic improvements when compared to earlier techniques. However, additional clinical trials are necessary to systematically evaluate the locoregional control, organ-preservation strategies, and survival related to the variety of treatments currently available.

176. **Eisenhuber E. Schima W. Stadler A., et al.**
Evaluation of swallowing disorders with videofluoroscopy in Austria: A survey.
In: European Journal of Radiology. Vol. 53(1)(pp 120-124), 2005.

Abstract

Aim: The aim of our study was to assess the availability of videofluoroscopy to examine patients with swallowing disorders in Austria. **Materials and methods:** A questionnaire was sent to the department heads of the radiology departments of all hospitals (n=143) and to all non-hospital-based radiologic practices (n=226) throughout Austria. The survey focused on the availability of videofluoroscopic swallowing studies and on the studies performed in patients with deglutition disorders. **Results:** The questionnaire was completed and returned by 134 of 143 radiology departments (94%) and 65 of 226 non-hospital-based radiologists (29%). Videofluoroscopic swallowing studies were performed in 38 of 134 radiology departments (28%) and in 21 of 65 practices (32%). The method is available in all nine Austrian states (100%) and 27 of 99 districts (27%). The number of examinations performed in different states ranged from 0.7 to 19 studies/10,000 population per year. The number of videofluoroscopic examinations per department or practice in the year 2001 ranged between 5 and 690 (median, 100 examinations). To 85% of videofluoroscopy units patients were referred from otorhinolaryngology/phoniatrics-logopedics, to 69% of videofluoroscopy units referrals were also from internal medicine, from neurology in 54%, and from pediatrics in 20%. **Conclusion:** Despite the widespread availability of videofluoroscopy throughout Austria, its use still varies largely between different states. The data show that in general there is a wide-spread demand for videofluoroscopic swallowing studies.

177. **Estienne M. Scaioli V. Zibordi F., et al.**
Enigmatic osteomyelitis and bilateral upper limb palsy in a neonate.
In: Pediatric Neurology. Vol. 32(1)(pp 56-59), 2005.

Abstract

This report describes a male infant who developed right upper limb palsy 5 days after birth and contralateral paralysis at 14 days. Abnormal in utero posture of the right arm had resulted in a difficult cephalic delivery. Right shoulder osteomyelitis was diagnosed at age 16 days from clinical, hematologic, and radiologic findings. Antibiotics were administered, followed by complete resolution of the symptoms in 2 weeks. Electromyographic and nerve conduction studies demonstrated direct involvement of the right brachial plexus, secondary to the osteomyelitis, explaining the unilateral onset and the persistent neurogenic pattern involving the muscles innervated by the right posterior branch to the brachial plexus. However, somatosensory evoked potentials indicated damage to the cervical spinal cord likely related to the birth trauma, which in all likelihood was the cause of the left limb palsy and contributed to the right limb picture.

178. **Fagundes-Pereyra WJ. De Sousa L. Carvalho GTC., et al.**
Meningeal melanocytoma of the posterior fossa: Case report and literature review.
In: Surgical Neurology. Vol. 63(3)(pp 269-273), 2005.

Abstract

Background: Meningeal melanocytomas are rare primary melanotic tumors of the leptomeninges. According to our review of the literature, just 22 cases of meningeal melanocytoma (MM) of the posterior fossa have been previously reported. Some aspects related to diagnosis, radiological appearance, histopathologic features, and management are discussed in this paper. **Case Description:** We describe the case of a 42-year-old female presenting with severe headache, nausea, and vomiting. Computed tomography and magnetic



resonance imaging demonstrated a posterior fossa lesion that was surgically treated. Histopathologic examination showed a highly cellular melanocytic neoplasm with numerous dark pigments in the cytoplasm. Immunoperoxidase staining S-100 protein and HMB 45 demonstrated immunoreactivity for both, confirming the diagnosis of MM. Conclusions: In conclusion, MMs are rare histologically benign tumors that can be cured by complete surgical resection alone, which should be the goal of the treatment. These lesions, although rare, should be considered in the differential diagnosis of tumors of the posterior fossa.

179. **Glasker S. Berlis A. Pagenstecher A., et al.**
Characterization of hemangioblastomas of spinal nerves.
In: Neurosurgery. Vol. 56(3)(pp 503-508), 2005.

Abstract

OBJECTIVE: Hemangioblastoma is classified as a benign tumor of the central nervous system. Peripheral nervous system hemangioblastomas to date have been described only in a few case reports. Experience in treating patients with these rare lesions, which harbor diagnostic and therapeutic pitfalls, is limited. **METHODS:** To characterize these lesions better, we reviewed our hemangioblastoma database for patients who underwent surgery for extradural hemangioblastoma of the spinal nerve. **RESULTS:** Between 1983 and 2003, six patients underwent surgery for spinal nerve hemangioblastomas at our institution. These tumors occurred in 2% of all patients with hemangioblastomas of the central nervous system, or 6% of all patients with spinal hemangioblastomas. The occurrence did not differ in von Hippel-Lindau disease cases versus sporadic cases. Radiographically, the tumors easily could be mistaken for schwannomas or metastases; however, they did have some typical features. If a hemangioblastoma was not suspected primarily, profuse bleeding could complicate surgery. Most of the tumors arose from the dorsal sensory fascicles. The vascular supply was from extradural circulation. In general, the surgical outcome of these lesions was good, and permanent neurological deficit was rare. However, local recurrence was observed in three of six patients. **CONCLUSION:** These tumors harbor diagnostic and therapeutic pitfalls. In general, the tumors are surgically more challenging, and clinically significant bleeding as well as local tumor recurrence is more common than in intradural hemangioblastomas, mostly because of the frequency of incorrect initial radiographic diagnosis. We suggest that because of the surgical consequences, hemangioblastoma should always be considered to be an important radiological differential diagnosis for nerve sheath tumors. Angiography can bring clarification to ambiguous cases.

180. **Ho MC. Cheung P. Ip LS., et al.**
The relationship between retinal haemorrhages and status epilepticus and a literature review of retinal haemorrhages in young children.
In: The Hong Kong Journal of Paediatrics. Vol. 10(1), 2005.

Abstract

Objective: To examine the relationship between retinal haemorrhages and status epilepticus in children under two years of age. **Methods:** This study involved a retrospective chart review of patients up to 24 months with status epilepticus admitted to a regional hospital in Hong Kong from 1994 to 2002. Occurrence of possible preceding events that were associated with retinal haemorrhages was recorded. These included cardiopulmonary resuscitation, head trauma, eye infection, vomiting and severe coughing bouts, evidence of raised intracranial pressure, leukaemia, arteriovenous malformation and bleeding tendencies. Retinal findings, underlying cause of status epilepticus and radiological features were also reviewed. **Results:** During the study period, there were 23 children aged two years or below (mean 11.7 months old; range, 30 days to 24 months) admitted with status epilepticus. They all had a complete neurological and fundoscopic examination. Twenty-two (96%) children did not have retinal haemorrhage. The only child (4%) with retinal haemorrhage had evidence of non-accidental injury. **Conclusion:** This study suggests that status epilepticus per se is unlikely to be associated with retinal haemorrhage in young children. If retinal haemorrhage is present, one should be alerted to the possibility of non-accidental injury.

181. **Irani SR.**
A novel neurological mechanism to explain the adverse effect of depression on coronary artery disease.
In: Medical Hypotheses. 64(2):284-7, 2005.
Abstract



The strong antecedent effect of depression as a risk factor in the development of coronary artery disease (CAD) has been demonstrated in many robust epidemiological studies. However, the underlying causative mechanisms are incompletely understood: this hypothesis proposes one possibility. A variety of histological and radiological techniques have been used to demonstrate structural and functional abnormalities in the prefrontal cortex (PFC) of depressed subjects. In addition, this limbic region has been inextricably implicated in the modulation of autonomic tone. Cardio-specifically, stimulation of PFC has arrhythmogenic effects. Reciprocally, cardiac stress tests produce activation of this cortical region. These observations place PFC at the top of a hierarchical autonomic loop involved in sensing and modulating cardiac variables. Finally, the reduced heart rate variability, higher heart rates and elevated cerebrospinal fluid catecholamine levels in depressed patients, compared to non-depressed matched controls, suggest sympathetic overdrive in these patients. These observations lead the author to propose that a primary defect in the PFC of depressed subjects destabilises the autonomic neurocardiac axis, accounting for the proven adverse effect of depression on CAD. This novel neurological mechanism can help to develop other current theories and to design and trial future therapies to reduce the adverse effect of depression on coronary artery disease.

182. **Ishiwata K. Mishina M. Kimura Y., et al.**

First visualization of adenosine A_{2A} receptors in the human brain by positron emission tomography with [¹¹C]TMSX.

In: Synapse. Vol. 55(2)(pp 133-136), 2005.

Abstract

[¹¹C]TMSX is a new positron emission tomography (PET) radioligand that provides visualization of adenosine A_{2A} receptors (A_{2A}Rs) in the brain, heart and skeletal muscle. Here we report on the first visualization of the A_{2A}Rs in the human brain by PET and [¹¹C]TMSX in a male healthy volunteer, compared with the adenosine A₁ receptors (A₁Rs) and dopamine D₂ receptors (D₂Rs) which were measured by PET with [¹¹C]MPDX and [¹¹C]raclopride, respectively. The distribution volume (DV) of [¹¹C]TMSX in the baseline was relatively high in the head of caudate nucleus, putamen, and thalamus and relatively low in the cortical regions. Infusion of theophylline, a nonselective A_{2A}R antagonist (K_i for A_{2A}Rs = 16000 nM for theophylline vs 5.9 nM for TMSX), slightly reduced the DVs in the head of caudate nucleus (8.0% reduction) and putamen (4.5% reduction), but not in the other regions having much lower levels of A_{2A}Rs, demonstrating the A_{2A}R-specific binding of [¹¹C]TMSX. On the other hand, the A₁Rs were widely distributed in the whole brain except for the cerebellum, while the binding potential of [¹¹C]raclopride was predominantly high in the striatum. We concluded that [¹¹C]TMSX is an applicable PET ligand for mapping the A_{2A}Rs in the caudate nucleus and putamen in clinical studies because of no availability of other radioligands until now. The [¹¹C]TMSX PET is of great interest for studying the pathophysiology of neurological and psychiatric disorders together with the [¹¹C]raclopride PET for D₂Rs evaluation and/or the [¹¹C]MPDX PET for A₁Rs evaluation.

183. **Iwabuchi K. Ito C. Tashiro M., et al.**

Histamine H₁ receptors in schizophrenic patients measured by positron emission tomography.

In: European Neuropsychopharmacology. Vol. 15(2)(pp 185-191), 2005.

Abstract

Increasing evidence has shown that the histaminergic neuron system is implicated in the pathophysiology of schizophrenia. The aim of this study was to compare the distribution of histamine H₁ receptors between schizophrenics and normal human subjects in vivo using positron emission tomography (PET). H₁ receptor binding was measured in 10 normal subjects and 10 medicated schizophrenic patients by PET and [¹¹C]doxepin, a radioligand for the H₁ receptor. The binding potential (BP=Bmax/K_D) of [¹¹C]doxepin for available brain H₁ receptors was calculated by a graphical analysis on voxel-by-voxel basis and compared between schizophrenics and normal subjects using the regions of interest (ROIs) and the statistical parametrical mapping (SPM99). BP values for H₁ receptors in the frontal



and prefrontal cortices and the cingulate gyrus were significantly lower among the schizophrenic patients than among the control subjects. On the contrary, there were no areas of the brain where H_{1} receptors were significantly higher among the schizophrenic patients than the control subjects. The results of our study suggest that the central histaminergic neuron system could be involved in the pathophysiology of schizophrenia, although further studies are needed to confirm this hypothesis.

184. **Kaplin AI. Krishnan C. Deshpande DM., et al.**
Diagnosis and management of acute myelopathies.
In: Neurologist. Vol. 11(1)(pp 2-18), 2005.

Abstract

Background: Acute myelopathies represent a heterogeneous group of disorders with distinct etiologies, clinical and radiologic features, and prognoses. Transverse myelitis (TM) is a prototype member of this group in which an immune-mediated process causes neural injury to the spinal cord, resulting in varying degrees of weakness, sensory alterations, and autonomic dysfunction. TM may exist as part of a multifocal CNS disease (eg, MS), multisystemic disease (eg, systemic lupus erythematosus), or as an isolated, idiopathic entity. Review Summary: In this article, we summarize recent classification and diagnostic schemes, which provide a framework for the diagnosis and management of patients with acute myelopathy. Additionally, we review the state of current knowledge about the epidemiology, natural history, immunopathogenesis, and treatment strategies for patients with TM. Conclusions: Our understanding of the classification, diagnosis, pathogenesis, and treatment of TM has recently begun to expand dramatically. With more rigorous criteria applied to distinguish acute myelopathies and with an emerging understanding of immunopathogenic events that underlie TM, it may now be possible to effectively initiate treatments in many of these disorders. Through the investigation of TM, we are also gaining a broader appreciation of the mechanisms that lead to autoimmune neurologic diseases in general.

185. **Kayser R. Mahlfeld K. Greulich M., et al.**
Spondylodiscitis in childhood: Results of a long-term study.
In: Spine. Vol. 30(3)(pp 318-323), 2005.

Abstract

Study Design. Retrospective study to gather long-term data clinical, paraclinical, and radiographic data on nonoperatively managed cases of childhood spondylodiscitis. Objectives. To analyze and assess the clinical, laboratory, and radiologic findings in children with spondylodiscitis and to document the efficacy of conservative treatment based on the long-term clinical, functional, and radiologic outcomes of these patients. Summary of Background Data. Childhood spondylodiscitis is an extremely rare entity that often presents an nonspecific clinical picture. Treatment strategies are mainly conservative. Assessment of the clinical and radiologic outcomes of these patients is essential for prognosis and for justification of nonoperative management. Methods. According to our hospital records, 25 children (17 girls and 8 boys) with a mean age of 6.1 years (range: 2 months-12 years) were hospitalized for spondylodiscitis between 1968 and 1988. Parameters related to the duration of symptoms, clinical manifestations, diagnostic workup, and course of treatment were reviewed. Twenty of the patients (75%) returned for clinical and radiologic follow-up at least 10 years after discharge (range 10-23 years). Results. All of the patients presented with uncharacteristic signs and symptoms. Laboratory markers of inflammation were only moderately elevated. On average, the diagnosis of spondylodiscitis was established after a delay of 14 weeks (range 2 days-60 weeks). All levels of the spine were affected, whereby the thoracic and lumbar spine were preferential sites. The radiographic studies revealed destruction of adjacent vertebral bodies in 12 cases (48%). The remaining 13 patients (52%) had isolated disc involvement without radiographically detectable bone destruction. An abscess was detected by computed tomography in only 1 case. At the time of follow-up, 16 patients (80%) were asymptomatic and had unrestricted spinal mobility. Four patients (20%) had restricted spinal mobility with local kyphosis, which could be documented objectively on radiograph film. In 12 cases (60%), healing was accompanied by fibrous ankylosis and high-grade narrowing of the intervertebral disc space, as was demonstrated radiologically. Eight patients (40%) exhibited fusion of the vertebrae (4 partial, 4 complete). Four patients (20%) had residual defects. Conclusions. Our study shows that the course of childhood spondylodiscitis is generally benign. Segmental or bony ankylosis may occur during the healing process but normally does not lead to serious functional deficits. Neurologic deficits were not observed in any of our patients. Conservative



management must be intensive, but the results are good. Biopsy is not required except in the few cases where diagnostic uncertainty prevails.

186. **Kelly J. Lim C. Kamel M., et al.**
Topaceous gout as a rare cause of spinal stenosis in the lumbar region. Case report.
In: Journal of Neurosurgery Spine. 2(2):215-7, 2005
Abstract
Despite the fact that gout is a common metabolic disorder, because its involvement of the axial skeleton is rare the diagnosis is often delayed, even in patients with long-standing gout who present with neurological deficits. The authors report the case of a woman with a history of extensive gout, emphasizing the clinical, radiological, and pathological features of a lumbar spinal stenosis.
187. **Kemp PM.**
Imaging the dopaminergic system in suspected parkinsonism, drug induced movement disorders, and Lewy body dementia.
In: Nuclear Medicine Communications. Vol. 26(2)(pp 87-96), 2005.
Abstract
This review discusses the role of pre- and post-synaptic dopaminergic imaging in suspected Parkinson's disease, vascular parkinsonism, the parkinsonian syndromes, drug induced movement disorder, and Lewy body dementia. It is envisaged that this information may be useful to neurologists, psychiatrists, physicians/geriatricians, radiologists and nuclear medicine physicians.
188. **Kotani Y. Abumi K. Ito M., et al.**
Cervical spine injuries associated with lateral mass and facet joint fractures: New classification and surgical treatment with pedicle screw fixation.
In: European Spine Journal. Vol. 14(1)(pp 69-77), 2005.
Abstract
To clarify the injury pattern, initial spinal instability, degree of discoligamentous injuries in cervical lateral mass and facet joint fractures, we retrospectively analyzed radiological parameters and introduced a new classification for these injuries. Surgical treatment was performed with cervical pedicle screw fixation (CPS), and overall neurological and radiological outcome was evaluated with a minimum follow-up period of 2 years. Lateral mass fractures were divided into the following four subtypes: separation, comminution, split, and traumatic spondylolysis. The sagittal and frontal alignments were evaluated at both mainly injured and adjacent spinal segments on radiographs. The initial discoligamentous injuries were investigated on magnetic resonance imaging in terms of their frequencies, subtype of injuries, and involved spinal levels. Anterior translation of fractured vertebra was demonstrated in 77% of lateral mass fractures, while 24% of anterior translation was observed, even in cephalad-adjacent vertebrae. On magnetic resonance imaging, signal changes in anterior longitudinal ligament (ALL) and intervertebral disc were demonstrated in 76% of caudal segments and 24% of cephalad segments adjacent to fractured vertebra of lateral mass fractures. The subtype analyses of lateral mass fractures demonstrated high rates of anterior translation in separation, split, and traumatic spondylolisthesis, as well as significant coronal malalignment in comminution and split types ($p < 0.05$). Thirty-one patients underwent surgical treatments using a cervical pedicle screw fixation. The CPS provided the superior capability of deformity correction without pseudoarthrosis, as well as excellent neurological recovery. The average numbers of stabilized segments were minimized without serious complications. In separation, facet joint fracture, and fractures with mild lateral mass comminution, the single level posterior fixation can be considered. The significant unstable injuries of split and comminution type with coronal malalignment can be treated with exclusive two-level posterior stabilization with CPS. The initial evaluation of fracture subtypes helps to successfully minimize the stabilized spinal segment.
189. **Kumar R. Singh SN. Bansal KK., et al.**
Comparative study of complex spina bifida and split cord malformation.
In: Indian Journal of Pediatrics. Vol. 72(2)(pp 109-115), 2005.
Abstract
Objective: To see the difference in clinical profiles, radiological findings and surgical outcome of the group 1 split cord malformation and meningomyelocele (SCM with MMC) from group 2

(SCM without MMC). Methods: 46 patients of SCM were selected from a total of 138 cases of spinal dysraphism. They were divided into two groups, based on presence or absence of MMC. Group I (SCM with MMC) n = 19 patients and Group II (SCM without MMC) n=27 patients. A detail clinical evaluation and MR screening of whole spine of all cases was performed. All patients underwent surgical detethering of cord. After an average follow-up of 1.7 years, the operative results were clinically assessed and statistical significance was calculated. Results: Male to female ratio was 1:09. Mean age of presentation was 3.6 years. Cutaneous markers like tuft of hair, cutaneous haemangioma, etc, had a higher incidence in group II in comparison to group I (50% vs 10.5%). The incidence of motor deficits was significant in group I in comparison to group II (63% vs 40%). The incidences of sensory loss, trophic ulcers, sphincteric dysfunction and muscle atrophy were relatively more common in group I patients, while neuro-orthopedic deformities such as congenital telepes equinovarus (CTEV), scoliosis and limb shortening were more frequent (67%) in group II children as compared to group I (53%). Type I SCM has higher incidence in group I children. Low lying conus were found in 47% patient of group I, while in group II it was noticed in 69%. The associated cranial anomalies like hydrocephalus, ACM and syrinx, were slightly higher in group I patients. At surgery, dysgenetic nerve roots, neural placode, arachnoid bands and atrophic cord were seen mainly in group I. Postoperative complications like, CSF leak, pseudomeningocele and meningitis were more commonly encountered in group I patients. The patients of group II showed better operative outcome compared to group I cases. Conclusion: Incidence of SCM with MMC amount to 41% of total SCM cases. Progressive neurological deficit was higher in this group (SCM with MMC) in comparison to the group harboring SCM without MMC. In view of a significant association of SCM in MMC cases, associated with other craniospinal anomalies, a thorough screening of neuraxis (by MRI) is recommended to treat all treatable anomalies simultaneously for desired outcome.

190. **Kumar R.**

Spinal tuberculosis: With reference to the children of northern India.
In: Childs Nervous System. Vol. 21(1)(pp 19-26), 2005.

Abstract

Background: Tuberculosis is a necrotizing bacterial infection with protean manifestation and wide distribution. There has been a great fall in the prevalence of tuberculosis in the United States since 1990, although the impact of acquired immunodeficiency syndrome (AIDS) has increased the resurgence of tuberculosis (TB). Spinal tuberculosis is the commonest form of skeletal tuberculosis. In this article, an overview of spinal tuberculosis and the personal experience of 19 children with spinal tuberculosis are presented. All the children required surgical intervention, because they manifested neurological deficit. Pathogenesis and clinical features: The spinal tuberculosis is a result of hematogenous dissemination from primary focus in the lungs or the lymph nodes. The central type of vertebral tuberculosis spreads along with Batson's plexus of veins, while paradiscal infection spreads through the arteries. The anterior type of vertebral body tuberculosis results from the extension of the abscess beneath the anterior longitudinal ligament and periosteum. Two types of bone and joint tuberculosis are recognized: the caseous, exudative type with abscess formation, which is more common in children, and the granular type is frequent in adults. Only 7 of the 19 children had an abscess, while 10 manifested mainly granulation tissue. Although spinal tuberculosis is an extradural disease, 2 children had intramedullary granulomas and presented a tumor-like syndrome as rare manifestations. It was interesting to encounter intradural granulation and organized intradural granuloma causing cord compression in 2 children. A frank abscess with clumping of nerve roots was encountered in the cauda of another child without vertebral involvement. There is a controversy regarding the age predilection of the disease; it is documented that it is a disease of adults in affluent countries, and a disease of the first three decades in other regions. Diagnosis: Magnetic resonance imaging is extremely useful in diagnosing the difficult and rare sites of disease like the craniovertebral junction. It detects the marrow changes, exudative and granulation types, extra- and intradural disease, and radiological response to treatment in the early follow-up period around 6-8 weeks. Treatment: Opinion varies regarding the operative indication for Pott's spine. A large group of surgeons perform debridement and decompression in all cases, irrespective of neurological involvement. Others perform operative decompression only in those patients who do not respond to chemotherapy. We did surgical interventions in children with moderate to severe neurological deficits manifesting radiological compression of their neuraxis. Depending on the site of involvement and type of disease the surgical approach was decided in individual cases. Two children with healed Pott's spine also



required surgery because of their spinal deformations, which caused gradual neurological deficits and pain in both. Prognosis depends on many factors; the magnitude of cord compression, duration of neural complication, age and general condition of patient. Fifteen of our children made a remarkable recovery. Children with paraplegia also made an excellent recovery of their strength and sensations.

191. **Levin GZ. Tabor DR.**

Paraplegia secondary to progressive necrotic myelopathy in a patient with an implanted morphine pump.

In: American Journal of Physical Medicine & Rehabilitation. 84(3):193-6, 2005

Abstract

We present an individual with chronic low back pain who was treated with an implanted morphine pump, which provided very good pain relief for 16 mos. However, the patient developed acute paraplegia secondary to progressive necrotic myelopathy, a rare form of transverse myelitis. The cause of this patient's neurologic deficit was unclear. Three months after the onset of paralysis, a trial of discontinuation of the intrathecal morphine was performed to exclude the morphine as a reversible cause of paralysis. Within 24 hrs after his pump was depleted, his pain became significantly worse. He was maintained on oral opioids for 6 mos, and his pain was only partly controlled, with a daily average visual analog scale score of 7/10. There was no improvement in his neurologic status after stopping the intrathecal morphine therapy, and several consecutive magnetic resonance images of the spine demonstrated radiologic progression of spinal cord involvement. The patient developed classic opioid side effects of excessive somnolence and constipation. Intrathecal morphine therapy was re-instituted, and the patient reported a significant decrease of his pain, an improvement in quality of life, and no complications related to pump functioning.

192. **Liao CC. Chen TY. Jung SM., et al.**

Surgical experience with symptomatic thoracic ossification of the ligamentum flavum.

In: Journal of Neurosurgery Spine. 2(1):34-9, 2005 .

Abstract

OBJECT: Symptomatic thoracic ossification of the ligamentum flavum (OLF) is rare, and its prognostic factors remain unclear. The authors retrospectively studied 24 patients with surgically treated thoracic OLF to delineate its prognostic factor. METHODS: The clinical manifestations, radiological studies, surgical records, and pathological findings were reviewed. Preoperative and postoperative neurological data were reappraised using the American Spinal Injury Association and modified Japanese Orthopaedic Association (JOA) scoring systems. Spearman rank-correlation coefficients and nonparametric tests were used to analyze the correlations between the variables of patient characteristics, preoperative duration of symptoms, preoperative neurological status, associated spinal disorder(s) other than thoracic OLF, and the final functional outcome. CONCLUSIONS: Decompressive surgery is indicated in patients in whom symptomatic thoracic spinal cord compression is caused by intruding OLF. Magnetic resonance imaging can provide sufficient clues for the diagnosis of thoracic OLF. Higher preoperative modified JOA scores of 3 and 4 are positively correlated with better postoperative functional recovery than lower scores. Surgery should be performed as soon as possible before independent ambulatory function is impaired.

193. **Lindley RI. Wardlaw JM. Sandercock PAG.**

Alteplase and ischaemic stroke: Have new reviews of old data helped?

In: Lancet Neurology. Vol. 4(4)(pp 249-253), 2005.

Abstract

Background: Thrombolysis for stroke is still not widely used as current recommendations restrict treatment to selected patients. In general, these are patients who can be assessed quickly by specialised stroke teams, have intracranial haemorrhage excluded by appropriate brain imaging, and are treated with alteplase (recombinant tissue plasminogen activator; rt-PA) within 3 h of symptom onset. There is, however, still much debate regarding the scope of treatment and the reorganisation of services required to support an effective service. Recent developments: Two recent publications have helped clarify some issues. The first was an individual-patient data meta-analysis of the alteplase trials. These analyses suggest treatment effects beyond the usual 3 h time window, but other than time to treatment no other factors influenced the effects of treatment. The second publication was a reanalysis of the original National Institute of Neurological Disorders and Stroke (NINDS) alteplase trial, done after



criticism of the original study. The reanalysis confirmed that there was significant baseline imbalance of stroke severity between treatment and control groups in the NINDS trial, but established that this did not materially affect the positive results of the trial. However, the recording of blood pressure in the study was found to be inconsistent and therefore unsuitable for reanalysis. The previously published data on recommendations for blood-pressure control, arising from the NINDS trial, needs to be reconsidered in this light. Both studies included too few patients to provide reliable data on which clinical and radiological features influence the response to alteplase. Where next? The individual-patient data meta-analysis and reanalysis of the NINDS trial have probably exhausted the potential of previous trials to answer questions on the effects of thrombolysis. Further randomised trials comparing thrombolysis with control will be required to determine whether elderly people benefit from treatment or whether there are worthwhile benefits from alteplase beyond 3 h (and in such patients, whether advanced magnetic resonance imaging is an effective way to select those most likely to benefit). Various new approaches to reperfusion also require assessment in large-scale trials: new thrombolytic drugs, the combination of intravenous and intra-arterial thrombolytic drugs, combinations of thrombolytics with new antiplatelet agents, and augmentation of thrombolysis either with mechanical devices or with transcranial ultrasound.

194. **Lohr M. Reithmeier T. Ernestus R-I., et al.**
Spinal epidural abscess: Prognostic factors and comparison of different surgical treatment strategies.

In: Acta Neurochirurgica. Vol. 147(2)(pp 159-166), 2005.

Abstract

Background. Spinal epidural abscess (SEA) is a rare but potentially devastating disease requiring immediate surgical intervention and appropriate antibiotic treatment. The standard approach to decompress SEA is laminectomy. No report covers comprehensively the indications for the less invasive interlaminar approach, the usefulness of intra-operative ultrasonography and the suspected benefit of inserting a suction-irrigation drainage. **Method.** A retrospective evaluation of the medical and radiological data was undertaken in 27 consecutive patients with SEA operated on during a period of 10 years by a dorsal approach. Factors influencing outcome were evaluated with special regard to different surgical strategies concerning the invasiveness of the operative approach, the use of intra-operative ultrasound and the use of different drainage systems. **Findings.** Outcome was mainly determined by the pre-operative neurological condition and the localization of the abscess. Recurrence rate was dependent on the longitudinal extent of the mass and the intra-operative finding of granulation tissue, but not on the administration of a postoperative suction-irrigation drainage. An interlaminar approach was equally matched to a decompression by laminectomy in lumbar SEA concerning the incidence of residual/recurrent abscess formation. In concomitant spondylodiscitis, laminectomy bore the risk of the formation of a postoperative kyphotic deformity. The use of intra-operative ultrasound allowed the visualization of hidden inflammatory masses and, thus, reduced the rate of residual abscess formation. **Conclusion.** An interlaminar approach should be considered instead of laminectomy in lumbar SEA and in impending anterior column instability due to spondylitis. Intra-operative ultrasound is a beneficial aid for the determination of the extent of decompression during surgery and is practicable even through a narrow interlaminar bony window. The insertion of postoperative suction-irrigation drainage had no beneficial effect on outcome but bore the risk of epidural fluid congestion.

195. **Melchior R. Zabel B. Spranger J., et al.**
Effective parenteral clodronate treatment of a child with severe juvenile idiopathic osteoporosis.

In: European Journal of Pediatrics. Vol. 164(1)(pp 22-27), 2005.

Abstract

We report on an 8 years and 3 months old boy with severe idiopathic juvenile osteoporosis (IJO). Clinical features included multiple fractures, especially of the vertebrae, and neurological symptoms. Biological studies showed non-parathyroid hormone-mediated excessive bone resorption and massive urinary calcium loss. Although IJO is usually a self-limiting condition after puberty, the severity of our patient's manifestations required therapeutic intervention. Clodronate (dichloromethylene-bisphosphonate) was administered parenterally every 3 months for a period of 2 years. Dramatic clinical and biochemical improvement was noted within 2 weeks. All parameters of bone resorption normalised and no new fractures



occurred. After 6 months of treatment, radiological improvement with healing of fractures and rebuilding of the vertebral plates was documented. Bone mineral density increased to normal within 1 year and growth velocity was accelerated. After 2 years, treatment was stopped at the age of 10 years and 3 months. One year later, back pain and increasing pain in the knee region recurred. A tibial fracture was evident and, again, bone mineral density was far below normal. Bisphosphonate medication was reinstated leading to rapid improvement. No side-effects were observed. Conclusion: parenteral clodronate therapy is effective in managing severe idiopathic juvenile osteoporosis.

196. **Mironov A.**

Cranial dural arteriovenous fistulas: Clinical findings and radiologic diagnostics.
In: Klinische Neuroradiologie. Vol. 15(1)(pp 32-39), 2005.

Abstract

Background: Cranial dural arteriovenous fistulas (DAVFs) are a unique acquired neurovascular entity, which may develop in the dura mater and adjacent pial veins. These arteriovenous shunting lesions of the dura are quite distinct from archetypal cerebral arteriovenous malformations because of pathologic, pathogenetic, and clinicobiological criteria. There remains some confusion and debate regarding proper nomenclature, pathophysiology, and pathoetiologic mechanisms. Clinical symptoms are highly variable and depend on the specific location of the lesion, the extent of arterial supply, and especially on the specific pattern of venous drainage. **Patients and Methods:** The Department of Neuroradiology, Kantonsspital Aarau, Switzerland, has consecutively assessed 185 patients with cranial DAVFs in the last 17 years. Treatment consisted of observational management, surgical resection, transarterial or transvenous embolization, or a combination of these therapies. A group of 95 aggressive cranial DAVFs (Borden grade 2 or 3) was analyzed. **Results:** In regard to venous pattern of their venous drainage the DAVFs were classified in five groups considering both the location and the possible pathogenesis. The patients with aggressive cranial DAVFs presented with hemorrhage, neurologic deficit, seizure, and dementia. **Conclusion:** The morphological development of DAVFs seems to depend on the flow volume of the venous recipient. A pronounced generation of pathologic AV shunts usually takes place at the level of large dural sinuses. By contrast, a delayed development of AV shunts with a low shunt volume occurs in a venous recipient with low AV pressure gradients. Transarterial treatment of DAVFs is chosen to improve symptoms and/or to prevent catastrophic consequences of the natural history of this disease. Once the venous side has been occluded, all arterial input (i. e., venous arterialization) will permanently cease. An anatomic cure can be achieved by obliteration of the venous recipient in three fashions: transvenous occlusion of sinus, transvenous occlusion of venous pouch outside the sinus lumen, or transarterial occlusion of venous channel.

197. **Nedeltchev K. der Maur TA. Georgiadis D., et al.**

Ischaemic stroke in young adults: predictors of outcome and recurrence.
In: Journal of Neurology, Neurosurgery & Psychiatry. 76(2):191-5, 2005 Feb.

Abstract

BACKGROUND: There is limited information about predictors of outcome and recurrence of ischaemic stroke affecting young adults. **OBJECTIVE:** To assess the predictive value of the presenting characteristics for both outcome and recurrence in young stroke victims. **METHODS:** Clinical and radiological data for 203 patients aged 16 to 45 years were collected prospectively; they comprised 11% of 1809 consecutive patients with ischaemic stroke. The National Institutes of Health stroke scale (NIHSS), the Bamford criteria, and the trial of ORG 10172 in acute stroke treatment (TOAST) classification were used to define stroke severity, subtype, and aetiology. The clinical outcome of 198 patients (98%) was assessed using the modified Rankin scale (mRS) and categorised as favourable (score 0-1) or unfavourable (score 2-6). **RESULTS:** Stroke was caused by atherosclerotic large artery disease in 4%, cardioembolism in 24%, small vessel disease in 9%, another determined aetiology in 30%, and undetermined aetiology in 33%. Clinical outcome at three months was favourable in 68%, unfavourable in 29%, and lethal in 3%. Thirteen non-fatal stroke, two fatal strokes, and six transient ischaemic attacks (TIA) occurred during a mean (SD) follow up of 26 (17) months. High NIHSS score, total anterior circulation stroke, and diabetes mellitus were independent predictors of unfavourable outcome or death ($p < 0.0001$, $p = 0.011$, and $p = 0.023$). History of TIA predicted stroke recurrence ($p = 0.02$). **CONCLUSIONS:** Severe neurological deficits at presentation, total anterior circulation stroke, and diabetes mellitus predict unfavourable



outcome. Previous TIA are associated with increased risk of recurrence.

198. **Nene A. Bhojraj S. Ortho D.**

Results of nonsurgical treatment of thoracic spinal tuberculosis in adults.
In: Spine Journal: Official Journal of the North American Spine Society. Vol. 5(1)(pp 79-84), 2005.

Abstract

Background: The indications for surgery in spinal tuberculosis have been controversial, and more so recently, in the era of renewed understanding of the concept of multi-drug-resistant tuberculosis along with newer modalities of spinal instrumentation. Indications for surgery need to be redefined in this context. **Purpose:** To assess the efficacy and results of nonsurgical treatment in thoracic spinal tuberculosis in adult patients, and redefine indications for surgery. **Study design:** We present a retrospective analysis of 70 adults with thoracic spinal tuberculosis, with varying presentations, including abscesses and neurological deficits, seen at our spine clinic, in a period between August 1998 and August 2000, treated largely nonsurgically, with rewarding results. **Methods:** A retrospective study was made of 70 adult patients with thoracic spinal tuberculosis presenting at our spine clinic, between August 1998 and August 2000. All patients were subjected to medical management, unless there were specific indications for surgery, as per our protocol, wherein absolute indications of surgery in adults included advanced neurological deficit (less than Grade 3 by 5, by the 5-point grading system of the Medical Research Council), neurology worsening while on antituberculous chemotherapy, diagnosis in doubt on clinicoradiological evaluation and significant kyphosis (greater than 40 degrees) on presentation. Clinical and radiological assessment of results was made by an independent observer, at a mean follow up of 40 months. **Results:** Forty-four patients presented with abscesses, 21 of which were epidural. Seven had neurological signs of cord compression on clinical examination at presentation. Over 98% of our patients (69 of 70) were successfully treated conservatively, and none of these had any residual instability, radiculopathy or neurological compromise. Seventy-four percent had excellent to good results, with no mechanical residues of the disease, and 23% had residual kyphosis, which was clinically obvious, but biomechanically irrelevant. **Conclusions:** We think that tuberculous spondylodiscitis in adults can be well managed conservatively in a vast majority of cases, and indications for surgery are few and specific.

199. **Pakos EE. Tsekeris PG. Chatzidimou K., et al.**

Astrocytoma-like multiple sclerosis.
In: Clinical Neurology & Neurosurgery. Vol. 107(2)(pp 152-157), 2005.

Abstract

Multiple sclerosis (MS) may sometimes mimic clinically and radiologically a brain tumor. The initial recognition of such cases is essential as it might avoid a surgical intervention and supplementary treatment. However, even in patients who underwent surgery, the appropriate preparation of the specimen is of crucial importance for the correct pathological diagnosis since tumors and non-neoplastic demyelinating lesions share some common histopathological features. We present such a case of multiple sclerosis presenting with features of an astrocytoma and was treated with surgery and additional radiotherapy.

200. **Prescott LM.**

46th Annual Meeting of the American Society of Hematology.
In: P & T. Vol. 30(2), 2005.

Abstract

More than 20,000 physicians, research scientists, radiologists, nurses, and other health care professionals attended the 46th annual meeting of the American Society of Hematology (ASH) in San Diego, California, from December 4 to 7, 2004, to hear the latest developments on malignant and nonmalignant hematological diseases. Some unique approaches included a new antisense agent/chemotherapy combination for elderly patients with acute myeloid leukemia; a novel arsenic compound for adults or children with acute promyelocytic leukemia; a protein-tyrosine kinase inhibitor for newly diagnosed chronic myeloid leukemia; a monoclonal antibody and chemotherapeutic agent combination for relapsed chronic lymphocytic leukemia; two immunotherapeutic approaches for both previously untreated patients with non-Hodgkin's lymphoma and patients with relapsed or refractory disease; a proteasome inhibitor for first-line multiple myeloma therapy; an immunomodulatory agent for maintenance therapy in myeloma; an investigational iron chelation agent for beta-thalassemia



and transfusion-related iron overload; and a low-molecular-weight heparin as a bridging anticoagulant for patients with a mechanical prosthetic heart valve who need to discontinue warfarin therapy temporarily.

201. **Puig S. Casati B. Staudenherz A., et al.**
Vascular low-flow malformations in children: Current concepts for classification, diagnosis and therapy.
In: European Journal of Radiology. Vol. 53(1)(pp 35-45), 2005.
Abstract
Congenital vascular malformations (CVM) are made of dysplastic vessels with no cellular proliferation. Low- or slow-flow malformations (LFM) consist predominantly of venous and/or lymphatic vessels. Correct terminology is necessary for differentiating vascular malformations from tumours such as haemangiomas, in order to prevent ineffective or even adverse therapy. The role of the radiologist in the management of patients is two-fold: making the diagnosis with the use of ultrasound and magnetic resonance imaging, and performing sclerotherapy, which is the treatment of choice. Prior to sclerotherapy, percutaneous phlebography is necessary to visualize the dynamic situation inside the lesion and the flow into the adjacent vascular system. The double-needle technique is a useful therapy option reducing the risk of embolisation of the sclerosing agent. Large lesions might need subsequent surgical treatment. A multidisciplinary approach is substantial for optimal patient management.
202. **Richards PJ.**
Cervical spine clearance: A review.
In: Injury. Vol. 36(2)(pp 248-269), 2005.
Abstract
Ethical concerns have hindered any randomised control blinded studies on the imaging required to assess the cervical spine in an unconscious trauma patient. The issue has been contentious for many years and has resulted in burgeoning but inconclusive guidance. MRI and multislice CT technology have made rapid advances, but the literature is slower to catch up. Never the less there appears to be an emerging consensus for the multiply injured patient. The rapid primary clinical survey should be followed by lateral cervical spine, chest and pelvic radiographs. If a patient is unconscious then CT of the brain and at least down to C3 (and in the USA down to D1) has now become routine. The cranio-cervical scans should be a maximum of 2 mm thickness, and probably less, as undisplaced type II peg fractures, can be invisible even on 1 mm slices with reconstructions. If the lateral cervical radiograph and the CT scan are negative, then MRI is the investigation of choice to exclude instability. Patients with focal neurological signs, evidence of cord or disc injury, and patients whose surgery require pre-operative cord assessment should be imaged by MRI. It is also the investigation of choice for evaluating the complications and late sequela of trauma. If the patient is to have an MRI scan, the MR unit must be able to at least do a sagittal STIR sequence of the entire vertebral column to exclude non-contiguous injuries, which, since the advent of MRI, are now known to be relatively common. Any areas of oedema or collapse then require detailed CT evaluation. It is important that cases are handled by a suitably skilled multidisciplinary team, and avoid repeat imaging due to technical inadequacies. The aim of this review is to re-examine the role of cervical spine imaging in the context of new guidelines and technical advances in imaging techniques.
203. **Richer LP. Sinclair DB. Bhargava R.**
Neuroimaging features of acute disseminated encephalomyelitis in childhood.
In: Pediatric Neurology. 32(1):30-6, 2005 Jan.
Abstract
Acute and disseminated demyelination of the central nervous system in children may have many causes. This study reports a retrospective cohort of 10 consecutive pediatric cases (5 to 17 years; mean [S.D.] 12.1 [4.3] years) with a presenting diagnosis of acute disseminated encephalomyelitis and the clinical and radiologic follow-up. The evolution of magnetic resonance imaging abnormalities was determined from serial studies in nine patients with a mean (S.D.) follow-up of 334.2 (312.8) days. Resolution of magnetic resonance imaging T(2) prolongation (i.e., demyelination) within 6 months of presentation was associated most commonly with a final clinical diagnosis of acute disseminated encephalomyelitis (including the multiphasic form), but failed to meet statistical significance (Fisher's exact test; P = 0.083). Incomplete resolution of the magnetic resonance imaging signal abnormalities yielded a



statistically significant association (Fisher's exact test; $P = 0.048$) with an abnormal neurologic outcome. In summary, we conclude that early resolution of magnetic resonance imaging signal abnormalities or recurrent demyelination within 6 months of an acute and disseminated demyelinating event suggests the diagnosis of acute disseminated encephalomyelitis in children, although this association failed to meet statistical significance. However, a statistically significant association between complete resolution of magnetic resonance imaging signal abnormalities and a normal neurologic outcome was observed.

204. **Santoro N. Giordano P. Del Vecchio GC., et al.**

Ischemic stroke in children treated for acute lymphoblastic leukemia: A retrospective study. In: Journal of Pediatric Hematology/Oncology. Vol. 27(3)(pp 153-157), 2005.

Abstract

The clinical and diagnostic findings and the factors influencing the neurologic and radiologic outcome of symptomatic ischemic stroke were evaluated in a group of 2,318 children with acute lymphoblastic leukemia (ALL) treated according to the AIEOP (Italian Association of Pediatric Hematology and Oncology) study protocols. In this multicentric retrospective study, a questionnaire was sent to each of the 43 AIEOP centers participating in the study. The questionnaire was designed to obtain information on the number, type, and time of occurrence of ischemic strokes, biologic and immunologic features of each case, as well as clinical data of the recruited patients. A prevalence of 0.47% was found. All ischemic strokes were sinovenous thrombosis (SVT). The most common neurologic presentations were diffuse neurologic signs and seizures. MRI with or without venography revealed SVT in 100% of cases; superficial SVT was diagnosed in the majority of cases. Antithrombotic drugs, in particular unfractionated heparin and low-molecular-weight heparin, were administered without bleeding complications. This series shows an excellent long-term neurologic outcome in children with SVT. However, a complete radiologic resolution was found in only 54% of cases; the involvement of deep cerebral venous sinuses was associated with an unfavorable imaging outcome.

205. **Sebire G. Tabarki B. Saunders DE., et al.**

Cerebral venous sinus thrombosis in children: risk factors, presentation, diagnosis and outcome.

In: Brain. 128(Pt 3):477-89, 2005 Mar.

Abstract

Neuroimaging and management advances require review of indications for excluding cerebral venous sinus (sinovenous) thrombosis (CSVT) in children. Our goals were to examine (i) clinical presentations of CSVT, (ii) prothrombotic risk factors and other predisposing events, (iii) clinical and radiological features of brain lesions in CSVT compared with arterial stroke, and (iv) predictors of outcome. We studied 42 children with CSVT from five European paediatric neurology stroke registries. Patients aged from 3 weeks to 13 (median 5.75) years (27 boys; 64%) presented with lethargy, anorexia, headache, vomiting, seizures, focal signs or coma and with CSVT on neuroimaging. Seventeen had prior chronic conditions; of the 25 previously well patients, 23 had recent infections, eight became dehydrated and six had both. Two children had a history compatible with prior CSVT. Anaemia and/or microcytosis (21 probable iron deficiency, five haemolytic, including two with sickle cell disease and one with beta-thalassaemia) was as common (62%) as prothrombotic disorder (13/21 screened). High factor VIII and homozygosity for the thermolabile methylene tetrahydrofolate reductase polymorphism were the commonest prothrombotic disorders. The superficial venous system was involved in 32 patients, the deep in six, and both in four. Data on the 13 children with bland infarction and the 12 with haemorrhage in the context of CSVT were compared with those from 88 children with ischaemic (AIS) and 24 with haemorrhagic (AHS) arterial stroke. In multiple logistic regression, iron deficiency, parietal infarction and lack of caudate involvement independently predicted CSVT rather than arterial disease. Five patients died, three acutely, one after recurrence and one after 6 months being quadriparetic and blind. Follow-up ranged from 0.5 to 10 (median 1) years. Twenty-six patients (62%) had sequelae: pseudotumour cerebri in 12 and cognitive and/or behavioural disabilities in 14, associated with epilepsy in three, hemiparesis in two and visual problems in two. Eighteen patients, including six with haemorrhage, were anticoagulated. Older age [odds ratio (OR) 1.54, 95% confidence limits (CI) 1.12, 2.13, $P = 0.008$], lack of parenchymal abnormality (OR 0.17, 95% CI 0.02, 1.56, $P = 0.1$), anticoagulation (OR 24.2, 95% CI 1.96, 299) and lateral and/or sigmoid sinus involvement (OR 16.2, 95% CI 1.62, 161, $P = 0.02$) were independent



predictors of good cognitive outcome, although the last predicted pseudotumour cerebri. Death was associated with coma at presentation. Of 19 patients with follow-up magnetic resonance (MR) venography, three had persistent occlusion, associated with anaemia and longer prodrome. A low threshold for CT or MR venography in children with acute neurological symptoms is essential. Nutritional deficiencies may be modifiable risk factors. A paediatric anticoagulation trial may be required, after the natural history has been further established from registries of cases with and without treatment.

206. **Shad A. Leach JC. Teddy PJ., et al.**

Use of the Solis cage and local autologous bone graft for anterior cervical discectomy and fusion: early technical experience.

In: Journal of Neurosurgery Spine. 2(2):116-22, 2005

Abstract

OBJECT: The authors prospectively evaluated the clinical and radiological outcomes after anterior cervical discectomy and fusion (ACDF) involving placement of a Solis cage and local autograft in patients who presented with symptomatic cervical spondylosis. METHODS:

Twenty-two consecutive patients underwent ACDF for radiculopathy (13 cases), myeloradiculopathy (eight cases), or myelopathy alone (one case) and were assessed at 3, 6, and 12 months. Plain cervical spine radiography demonstrated a significant change in both local ($p < 0.05$) and regional ($p < 0.05$) kyphotic angles as well as an increase in segmental height ($p < 0.05$). At 12 months, plain radiography demonstrated Grades I, II, and III new bone formation in two, three, and 17 patients, respectively. Clinical outcomes were assessed using a visual analog scale for both neck and arm pain and a modified Japanese Orthopaedic Association (JOA) scale for myelopathy. There was a significant improvement in both arm ($p < 0.05$) and neck pain ($p < 0.05$). At 12 months, 16 (84%) of 19 and 19 (86%) of 22 patients reported complete resolution of arm pain and neck pain, respectively. There was a significant improvement in JOA scores following surgery ($p < 0.05$). There were two complications in the series: one case of deep venous thrombosis and one case of postoperative arm pain that resolved after conservative treatment. There were no technical complications.

CONCLUSIONS: Early experience with Solis cage-augmented ACDF indicates good clinical and radiological outcomes; additionally, there are the advantages of absent donor site morbidity and anterior plate system-related morbidity.

207. **Sheehan J. Kondziolka D. Flickinger J., et al.**

Gamma knife surgery for glomus jugulare tumors: an intermediate report on efficacy and safety.

In: Journal of Neurosurgery. 102 Suppl:241-6, 2005

Abstract

OBJECT: Glomus jugulare tumors are rare tumors that commonly involve the middle ear, temporal bone, and lower cranial nerves. Resection, embolization, and radiation therapy have been the mainstays of treatment. Despite these therapies, tumor control can be difficult to achieve particularly without undo risk of patient morbidity or mortality. The authors examine the safety and efficacy of gamma knife surgery (GKS) for glomus jugulare tumors. METHODS: A retrospective review was undertaken of the results obtained in eight patients who underwent GKS for recurrent, residual, or unresectable glomus jugulare tumors. The median radiosurgical dose to the tumor margin was 15 Gy (range 12-18 Gy). The median clinical follow-up period was 28 months, and the median period for radiological follow up was 32 months. All eight patients demonstrated neurological stability or improvement. No cranial nerve palsies arose or deteriorated after GKS. In the seven patients in whom radiographic follow up was obtained, the tumor size decreased in four and remained stable in three.

CONCLUSIONS: Gamma knife surgery would seem to afford effective local tumor control and preserves neurological function in patients with glomus jugulare tumors. If long-term results with GKS are equally efficacious, the role of stereotactic radiosurgery will expand.

208. **Silva Y. Leira R. Tejada J., et al.**

Molecular signatures of vascular injury are associated with early growth of intracerebral hemorrhage.

In: Stroke. Vol. 36(1)(pp 86-91), 2005.

Abstract

Background and Purpose - To investigate whether molecular markers of inflammation and endothelial injury are associated with early growth of intracerebral hemorrhage (ICH). Methods



- In a multicenter prospective study, we determined concentrations of interleukin-6 (IL-6), tumor necrosis factor-[alpha] (TNF-[alpha]), matrix metalloproteinase-9 (MMP-9), and cellular fibronectin (c-Fn) in blood samples obtained on admission from 183 patients with primary hemispheric ICH of < 12 hours' duration. Patients had a neurological evaluation and a computed tomography (CT) scan performed at baseline and at 48+/-6 hours. Early growth of the ICH was defined as a volume increase > 33% between the 2 CT examinations for ICH with a baseline volume < 20 mL and > 10% for ICH >= 20 mL. Clinical, radiological, and biochemical predictive factors of ICH enlargement were analyzed by logistic regression analysis. Results - Fifty-four (29.5%) patients showed a relevant early growth of ICH. High leukocyte count and fibrinogen levels, low platelet count, and intraventricular bleeding were associated with early ICH growth in bivariate analyses. Plasma concentrations of IL-6 (median [quartiles]: 19.6 [13.6; 29.9] versus 15.9 [11.5; 19.8] pg/mL), TNF-[alpha] (13.5 [8.4; 30.5] versus 8.7 [4.7; 13.5] pg/mL), MMP-9 (153.3 [117.7; 204.7] versus 70.6 [47.8; 103.8] ng/mL), and c-Fn (8.8 [6.2; 12.5] versus 2.8 [1.6; 4.2] [mu]g/mL) were significantly higher in patients with early growth of ICH (all P<0.001). C-Fn levels > 6 [mu]g/mL (OR, 92; 95% CI, 22 to 381; P<0.0001) and IL-6>24 pg/mL (OR, 16; 95%CI, 2.3 to 119; P=0.005) were independently associated with ICH enlargement in the logistic regression analysis. Conclusions - Molecular signatures of vascular injury and inflammatory markers in the early acute phase of ICH are associated with subsequent enlargement of the hematoma.
209. **Stone SC. Mallon WK. Childs JM., et al.**
Emphysematous pyelonephritis: Clues to rapid diagnosis in the Emergency Department.
In: Journal of Emergency Medicine. Vol. 28(3)(pp 315-319), 2005.
Abstract
Emphysematous pyelonephritis (EPN) is an acute life-threatening bacterial infection. EPN leads to rapid necrotizing destruction of the renal parenchyma and peri-renal tissue, requiring early and aggressive care to reduce morbidity and mortality. Previous studies have described the use of computed tomography scan and radiology-performed ultrasound to make the diagnosis of EPN We report a case of EPN diagnosed by bedside Emergency Department (ED) ultrasound performed by emergency physicians, allowing a more rapid diagnosis and subsequent treatment.
210. **Suzer T. Coskun E. Cirak B., et al.**
Brain stem abscesses in childhood.
In: Childs Nervous System. Vol. 21(1)(pp 27-31), 2005.
Abstract
Background: Solitary brain stem abscess is a rare condition with high mortality and morbidity. These lesions were considered to be invariably fatal before 1974 when advanced diagnostic tools were not available. Recently, the diagnosis and prognosis of brain stem abscesses have been modified by the introduction of modern radiological tools, and several patients with a favorable outcome have been reported since then. Because the pons is the most common site of the abscesses, involvement of the sixth and seventh nerves is frequent. The midbrain is the second most likely location, and medullary abscesses are distinctly rare. Treatment of a brain stem abscess includes medical therapy alone, open microsurgical intervention, or stereotactic aspiration. Case report: We report a case of a 7-year-old girl with a solitary brain stem abscess. Her neurological examination revealed involvement of the cranial nerves and pyramidal tracts. Microsurgical exposure and aspiration of the abscess resulted in rapid improvement in her neurological condition and radiological resolution of the lesion. We discuss this uncommon case to draw attention to the importance of early diagnosis and adequate treatment, and we review the relevant literature.
211. **Tallur KK. Johnson DA. Kirk JM., et al.**
Folate-induced reversal of leukoencephalopathy and intellectual decline in methylenetetrahydrofolate reductase deficiency: variable response in siblings.
In: Developmental Medicine & Child Neurology. 47(1):53-6, 2005 .
Abstract
Homocystinuria due to 5,10-methylenetetrahydrofolate reductase deficiency may present with variable neurological manifestations. Radiological features include white matter changes (leukoencephalopathy). Clinical, biochemical, and radiological response to treatment may again be variable. Here we present a 12-year follow-up of two siblings on the same treatment regimen, with contrasting long-term findings. The first patient, a female presenting at 15 years,

showed a good clinical response, substantial intellectual gain, and complete reversal of leukoencephalopathy. Her brother presented at 13 years 9 months and showed limited clinical and cognitive improvement with persistence of the leukoencephalopathy. Both siblings showed a partial biochemical response to treatment.

212. **Van Esch H. Dom R. Bex D., et al.**

Screening for FMR-1 premutations in 122 older Flemish males presenting with ataxia. In: European Journal of Human Genetics. Vol. 13(1)(pp 121-123), 2005.

Abstract

Recently, Hagerman et al described the occurrence of a late-onset neurological disorder in five male carriers of the fragile-X (FMR-1) premutation. The major characteristics of this disorder, designated the Fragile-X Tremor Ataxia Syndrome (FXTAS), are progressive intention tremor, cerebellar ataxia and cognitive decline. Most cases of FXTAS published thus far were ascertained through families with a known fragile-X proband. Since cerebellar ataxia is one of the main cardinal features, we performed FMR-1 premutation screening in 122 male patients, older than 50 years, who were referred to us for testing of the spinocerebellar ataxia (SCA 1, 2, 3, 6, 7) genes and who were found to be negative. In this group of patients, we found five patients with an FMR-1 premutation. In four of them, a definite diagnosis of FXTAS could be made, based on the proposed diagnostic clinical and radiological criteria for FXTAS. In light of these figures, we recommend that FMR-1 analysis should be included in the molecular diagnostic work-up in the group of male ataxia patients older than 50 years.

213. **Verger E. Gil M. Yaya R., et al.**

Temozolomide and concomitant whole brain radiotherapy in patients with brain metastases: a phase II randomized trial.

In: International Journal of Radiation Oncology, Biology, Physics. 61(1):185-91, 2005

Abstract

PURPOSE: To evaluate the safety profile and efficacy of whole brain radiotherapy (WBRT) concomitantly with temozolomide (TMZ) in patients with brain metastases (BM). **METHODS AND MATERIALS:** Patients with BM were randomly assigned to 30 Gy of WBRT with or without concomitant TMZ (75 mg/m²/d) plus two cycles of TMZ (200 mg/m²/d for 5 days). The primary outcome was analysis of neurologic toxicity. The primary efficacy measures were 90-day progression-free survival of BM and the radiologic response at Days 30 and 90. **RESULTS:** We enrolled 82 patients. No neurologic acute toxicity was observed. Grade 3 or worse hematologic toxicity was seen in 3 patients and Grade 3 or worse vomiting in 1 patient of the WBRT plus TMZ arm. The objective response rate at 30 and 90 days and overall survival were similar in both arms. The percentage of patients with progression-free survival of BM at 90 days was 54% for WBRT vs. 72% for WBRT and TMZ ($p = 0.03$). Death from BM was greater in the WBRT arm (69% vs. 41%, $p = 0.03$). **CONCLUSION:** The concomitant use of RT with TMZ was well tolerated and resulted in significantly better progression-free survival of BM at 90 days. Although caution should be used, these results suggest TMZ could improve local control of BM.

214. **Verzijl HTFM. Valk J. De Vries R., et al.**

Radiologic evidence for absence of the facial nerve in Mobius syndrome.

In: Neurology. Vol. 64(5)(pp 849-855), 2005.

Abstract

Objective: To detail the radiologic findings in Mo[spacing diaeresis]bius syndrome, in order to clarify its pathogenetic mechanisms. **Methods:** High resolution three-dimensional T1 (MP rage) and T2 (CISS) weighted MRI were used to study the cisternal and canalicular portion of the seventh cranial nerve in six Mo[spacing diaeresis]bius patients. Also, the anteroposterior dimension of the brainstem was measured at the level of the pons in the authors' 6 patients and in 20 age-matched healthy control subjects. Furthermore, the MRIs were evaluated for associated congenital brain anomalies. **Results:** The facial nerves were absent in all six patients despite residual function in some facial muscles. The authors confirmed brainstem hypoplasia but did not find tegmental calcifications. The anteroposterior dimension of the brainstem ranged between 17 and 25 mm vs 20 to 27 mm for controls. In three patients there were congenital abnormalities in the posterior fossa. **Conclusion:** The absent facial nerves on MRI and the unusual distribution of the facial weakness, which is characteristic of Mo[spacing diaeresis]bius syndrome, suggests that other cranial nerves, possibly the trigeminal,



hypoglossal, or glossopharyngeal nerve, aberrantly innervate some lower facial muscles. Radiologic findings support the notion that Mo[spacing diaeresis]bius syndrome is part of a more complex congenital anomaly of the fossa posterior.

215. **Yamazaki T. Yanaka K. Fujita K., et al.**

Traumatic central cord syndrome: analysis of factors affecting the outcome.
In: Surgical Neurology. 63(2):95-9; discussion 99-100, 2005 Feb.

Abstract

BACKGROUND: The indications and timing of treatment, as well as the best treatment method for traumatic central cord syndrome (CCS), remain controversial. The aims of this study are to determine the prognostic factors of traumatic CCS and to determine appropriate surgical indications. **METHODS:** We reviewed the clinical and radiological data of 47 patients with this syndrome. The data collected included age, neurological status as measured on a scale defined by the Japanese Orthopaedic Association (JOA), anteroposterior (AP) diameter of the spinal canal on computed tomography, signal intensity change of the spinal cord on T2-weighted magnetic resonance imaging (MRI), associated spinal diseases, and the type of treatment received. The correspondence between the clinical and radiological findings and the neurological outcome was investigated. **RESULTS:** The patient's age, JOA score on admission, signal intensity change of the spinal cord on MRI, and associated spinal diseases were not significant in predicting the patient's recovery. On the other hand, the AP diameter of the spinal canal ($P = .0402$) and the interval between injury and surgery ($P < .0001$) were factors predictive of excellent recovery. In the surgical treatment group, timely surgery was found to improve the outcome, while conservative treatment did not improve the outcome of patients with a low JOA score, a relatively small AP diameter of the spinal canal, or a positive signal intensity change of the spinal cord on T2-weighted MRI. **CONCLUSION:** The AP canal diameter of the spinal canal and the interval between injury and surgery may be reliable predictors of excellent recovery in patients with CCS. We recommend timely surgery, preferably within 2 weeks of injury, to achieve a better functional outcome in selected patients.

216. **Yapici Z. Eraksoy M.**

Non-progressive congenital ataxia with cerebellar hypoplasia in three families.
In: Acta Paediatrica. Vol. 94(2)(pp 248-253), 2005.

Abstract

Aim: Non-progressive ataxias with cerebellar hypoplasia are a rarely seen heterogeneous group of hereditary cerebellar ataxias. **Method:** Three sib pairs from three different families with this entity have been reviewed, and differential diagnosis has been discussed. **Results:** In two of the families, the parents were consanguineous. Walking was delayed in all the children. Truncal and extremity ataxia were then noticed. Ataxia was severe in one child, moderate in two children, and mild in the remaining three. Neurological examination revealed horizontal, horizonto-rotatory and/or vertical nystagmus, variable degrees of mental retardation, and pyramidal signs besides truncal and extremity ataxia. In all the cases, cerebellar hemisphere and vermis hypoplasia were detected in MRI. During the follow-up period, a gradual clinical improvement was achieved in all the children. **Conclusion:** Inheritance should be considered as autosomal recessive in some of the non-progressive ataxic syndromes. Congenital non-progressive ataxias are still being investigated due to the rarity of large pedigrees for genetic studies. If further information on the aetiopathogenesis and clinical progression of childhood ataxias associated with cerebellar hypoplasia is to be acquired, a combined evaluation of metabolic screening, long-term follow-up and radiological analyses is essential.

