

Annotated Bibliography

Nolan Altman, James A. Brunberg, Allen P. Elster, Ajax E. George, David B. Hackney, Robert B. Lufkin, Jeffrey S. Ross, Joel D. Swartz, Jane L. Weissman, and Samuel M. Wolpert

Spine

Hasegawa T, An HS, Haughton VM, Nowicki BH. **Lumbar foraminal stenosis: critical heights of the intervertebral discs and foramina.** *J Bone Joint Surg* 1995;77-A:32-38.

Nerve root compression was identified in 21 of the 100 lumbar foramina from 18 spines of cadavera. Posterior disk heights, foraminal heights, and foraminal cross-sectional areas in the nerve root compression group were significantly lower than those in the control group. Compression occurred in 12 of 15 specimens in which the posterior height was 4 mm or less and the foraminal height was 15 mm or less. These dimensions may be indicators of foraminal stenosis in the lumbar spine. □J.S.R.

Schwend RM, Hennrikus W, Hall JE, Emans JB. **Childhood scoliosis: clinical indications for magnetic resonance imaging.** *J Bone Joint Surg* 1995;77-A:46-53.

A retrospective review of the the magnetic resonance (MR) imaging studies in 95 patients with idiopathic scoliosis. The authors conclude that primary indications for imaging include history of severe unexplained headache; neck pain and stiffness with hyperextension; and clinical findings that include ataxia, a cavus foot, focal neurologic signs of and diminished sensation of pain, temperature, light, touch, or position. Secondary indication is a left thoracic scoliosis in a child younger than 11 years of age. Two figures. □J.S.R.

Esses SI, Natout N, Kip P. **Posterior interbody arthrodesis with a fibular strut graft in spondylolisthesis.** *J Bone Joint Surg* 1995;77-A:172-176.

The authors present the results of posterior interbody arthrodesis of L-5 and S-1 using a fibular strut graft in nine patients with severe spondylolisthesis. After surgery, there is significant improvement in lower back pain, and all patients had plain film evidence of fusion. Most of the postoperative complications were related to the fibular donor site and were transient. □J.S.R.

Hilibrand AS, Urouhart AG, Graziano GP, Hensinger RN. **Acute spondylolytic spondylolisthesis.** *J Bone Joint Surg* 1995;77-A:190-196.

Acute spondylolytic spondylolisthesis was diagnosed after trauma in five patients. Patients who have back pain, spondylolysis, and spondylolisthesis after high-energy trauma and who have not had previous back pain or sciatica may have an unstable spinal injury similar to fracture dislocation. The authors recommend surgical treatment for these acute traumatic cases with progression and neurologic compromise. Grade one deformities may be treated adequately with a posterior arthrodesis. □J.S.R.

Kauppila LI. **Ingrowth of blood vessels in disc degeneration.** *J Bone Joint Surg* 1995;77-A:26-31.

The author made angiograms of cadaveric lumbar spines looking for the presence of new blood vessels between adjacent lumbar vertebrae and disks. Vascularity of the annulus increased significantly with degeneration of the disk, and regression analysis shows that the vascular changes occurred before degeneration of the disk at every lumbar level, suggesting that disturbances in nutritional supply may precede degeneration. One figure and four micrographs. □J.S.R.

Interventional Neuroradiology

Afshar JKB, Doppman JL, Oldfield EH. **Surgical interruption of intradural draining vein as curative treatment of spinal dural arteriovenous fistulas.** *J Neurosurg* 1995;82:196-200.

In eight patients with spinal dural arteriovenous fistulas with only intrathecal medullar venous drainage, surgical interruption of the intradural draining vein provided lasting cure. This finding, if confirmed, has important implications for the surgical and endovascular treatment of such lesions. □A.D.E.

Brain Tumors and Cysts

Levivier M, Goldman S, Pirotte B, et al. **Diagnostic yield of stereotactic brain biopsy guided by positron emission tomography with [¹⁸F]fluorodeoxyglucose.** *J Neurosurg* 1995;82:445-452.

In a comparison of stereotactic targets in brain tumors using contrast-enhanced computed tomography (CT) and positron emission tomography (PET), the PET information provided a higher yield of biopsy results. This was especially true for larger lesions and lesions that demonstrated contrast enhancement on CT. □A.D.E.

Nose, Paranasal Sinuses, Face, and Oral Cavity

Cleary KR, Batsakis J. **Sinonasal lymphomas.** *Ann Otol Rhinol Laryngol* 1994;103(11):911-914.

This essay (no images) emphasizes that terms such as *polymorphic reticulosis*, *lymphomatoid granulomatosis*, *pseudolymphoma*, and *midline granuloma syndrome*, among others, should be discarded in favor of *nasal T-cell lymphoma*, which has a predilection for Asian populations, and *sinonasal B-cell lymphoma*, which predominates in Western populations. Interesting reading for students of this disease process. □J.D.S.

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Pediatric Neuroradiology and Congenital Malformations

Bouza H, Dubowitz LM, Rutherford M, Cowan F, Pennock JM. **Late magnetic resonance imaging and clinical findings in neonates with unilateral lesions on cranial ultrasound.** *Dev Med Child Neurol* 1994;36:951-964.

In 11 term and 11 preterm infants who had predominantly unilateral lesions detected with sonography during the neonatal period, clinical and MR evaluations were completed at 2 to 9 years of age. It was not possible, based on MR or on the original sonography, to define which of the infants would be among the 15 who had clinical findings of hemiplegia at 2 to 9 years of age. Severity of hemiplegia also could not be correlated with imaging findings. From patterns of initial sonographic alteration and from subsequent MR and clinical findings in this limited study, the authors conclude that the absence of historical asphyxial events and neonatal clinical signs of asphyxia do not indicate that a lesion is antenatal in origin. The authors also suggest that MR imaging at 2 to 9 years of age cannot predict the cause or timing of a lesion. □J.A.B.

Niemann G, Wakat JP, Krägeloh-Mann I, Grodd W, Michaelis R. **Congenital hemiparesis and periventricular leukomalacia: pathogenetic aspects on magnetic resonance imaging.** *Dev Med Child Neurol* 1994;36:943-950.

In 41 term and preterm infants with congenital hemiparesis that persisted up to 1 year of age, MR findings were used to classify patients into groups depending on whether there was periventricular increased signal intensity on T2-weighted images, white matter loss, congenital anomaly, focal cortical lesion, or no abnormality. The largest group (n = 23) consisted of term and preterm infants with periventricular gliosis. The absence of a difference in MR pattern between term and preterm infants with periventricular gliosis is considered by the authors to suggest an antenatal systemic process as the predominant cause of congenital hemiparesis in term infants. □J.A.B.

Temporal Bone

Forton GEJ, Somers T, and Hermans R, Baert AL, Officiers FE. **Preoperatively diagnosed utricular neuroma treated by selective partial labyrinthectomy.** *Ann Otol Rhinol Laryngol* 1994;103(11):885-888.

Thin-section contrast-enhanced axial T1-weighted spin-echo image and three-dimensional Fourier transform constructive interference in a steady state maximum intensity projection image demonstrate an intravestibular mass measuring 3 mm at maximal diameter, which enhances on postcontrast MR. Exploration revealed that the lesion arose from the utricular macula. The authors estimate that approximately 60% of reported intralabyrinthine neuromas arise from the cochlea and the remainder from the utricle or semicircular canals. No mention is made of the saccule in this regard. The authors propose that the hearing loss was secondary to endolymphatic hydrops from tumor compression of the ductus reuniens. □J.D.S.

Redleaf MI, Bauer CA, Laurenzo JF, Gantz BJ. **Squamous cell carcinoma metastatic to the cerebellopontine angle.** *Ann Otol Rhinol Laryngol* 1994;103(11):908-910.

Two overexposed coronal T1-weighted images demonstrate bilateral enhancing cerebellopontine angle lesions pathologically proved to represent metastatic squamous cell carcinoma (unknown primary). Because imaging is incomplete, one postulates that this represents leptomeningeal disease, although this is not specifically referred to in the article. The authors do indicate that these are the only intracranial abnormalities. □J.D.S.

Leiberman A, Lupu L, Landsberg R, Fliss DM. **Unusual complications of otitis media.** *Am J Otolaryngol* 1994;15(6):444-448.

Numerous contrast-enhanced CT images (only one upside down) demonstrate septic lateral sinus and internal jugular vein thrombophlebitis in two young patients with coalescent mastoiditis, one with pulmonary emboli. In one patient, intraluminal gas bubbles are demonstrated, which the authors believe suggest the formation of an intraluminal abscess. No MR angiography, but cases are informative nonetheless because of their relative rarity. □J.D.S.

Selesnick SH, Patwardhan A. **Acute facial paralysis: evaluation and early management.** *Am J Otolaryngol* 1994;15(6):387-408.

This is an extraordinarily detailed 22-page review. Highly recommended for imaging specialists who are students of the facial nerve. A few pathologic CT and MR images supplement numerous drawings and thorough text. Clinical diagnosis, surgical anatomy, inflammation, and trauma are reviewed. □J.D.S.

Mallin WH, Elgazzar AH, Maxon HR. **Imaging modalities in the follow-up of non-iodine avid thyroid carcinoma.** *Am J Otolaryngol* 1994;15(6):417-422.

The authors emphasize that not all thyroid cancer concentrates I-131. They review the efficacy of other imaging modalities and conclude that thallous chloride Tl 201, MR, and Tc-99m pentavalent dimercaptosuccinic acid provide adequate sensitivity and follow-up for these patients. □J.D.S.