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Annotated bibliography.

N Altman, J A Brunberg, A D Elster, A E George, D B Hackney, R B Lufkin, J S Ross, J D Swartz, J L Weissman and S M Wolpert

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

Cerebrospinal Fluid

da Silva MC, Michowicz S, Drake JM, Chumas PD, Tuor UI. **Reduced local cerebral blood flow in periventricular white matter in experimental neonatal hydrocephalus: restoration with CSF shunting.** *J Cereb Blood Flow Metab* 1990; 15:1057–1065

Local cerebral blood flow (LCBF) was tested in an animal model of severe progressive hydrocephalus induced by kaolin injection into the cisterna magna. The LCBF was measured by ^{14}C-iodoantipyrine autoradiography. LCBF was globally reduced 1 week after induction of hydrocephalus but persisted only in the white matter at 3 weeks. Shunted animals showed normal LCBF in all areas at 3 weeks. This study supports prior evidence in the literature that reduced blood flow is an important pathogenic mechanism in hydrocephalus.□A.E.G.

Vascular Lesions and Malformations

Latchaw RE, Hu X, Ugurbil K, Hall WA, Madison MT, Heros RC. **Functional magnetic resonance imaging as a management tool for cerebral arteriovenous malformations.** *Neurosurgery* 1995;37:619–626

The use of functional MR for the identification of eloquent brain tissue before surgical or radiosurgical treatment of cerebral arteriovenous malformations is presented and beautifully illustrated. Techniques for cortical activation of the visual cortex, motor strip, and Broca's area are presented. The utility of functional activation is demonstrated in three patients with arteriovenous malformations, and future applications or the technique are discussed. □J.A.B.

Leblanc R, Melanson D, Tampieri D, Guttmann RD. **Familial cerebral aneurysms: a study of 13 families.** *Neurosurgery* 1995;37:633–639

Among 13 families, 30 patients were documented to have 38 cerebral aneurysms. Observations regarding gender, rupture, aneurysm site, and multiplicity among these familial aneurysms are reported. The authors' experience and the literature regarding biological markers, genetic linkage analysis, and patterns of inheritance associated with familial cerebral aneurysms are reviewed. The uncertain role of MR angiography and the role of screening angiography are discussed.□J.A.B.

Tatter SB, Crowell RM, Ogilvy CS. **Aneurysmal and microaneurysmal 'angiogram-negative' subarachnoid hemorrhage.** *Neurosurgery* 1995;37:48–55

Of 40 patients with angiogram-negative subarachnoid hemorrhage, nine underwent surgical exploration. A source of hemorrhage was discovered in seven. In four of these a microaneurysm too small to accept an aneurysm clip was detected. The role of such microaneurysms, of vasospasm, and of aneurysm thrombosis in the presentation of angiogram-negative subarachnoid hemorrhage is discussed. CT findings used to guide surgical approaches to angiographically negative subarachnoid hemorrhage are illustrated. An algorithm for the treatment of patients with angiographically occult subarachnoid hemorrhage is proposed.□J.A.B.

Maraire JN, Awad IA. **Intracranial cavernous malformations: lesion behavior and management strategies.** *Neurosurgery* 1995;37:591–605

Cavernous malformations of the brain are reviewed from the perspective of their relationship to other intracranial vascular malformations, and relating to their findings on diagnostic imaging. Epidemiology, clinical manifestations, and factors affecting lesion behavior are discussed. Management strategies and factors affecting the biological behavior of cavernous malformations are reviewed. The article is an essential one-stop review of intracranial cavernous malformations.□J.A.B.

Pollock BE, Flickinger JC, Lunsford D, Bissonette DJ, Kondziolka D. **Factors that predict the bleeding risk of cerebral arteriovenous malformations.** *Stroke* 1996;27: 1–6

This is a review of the clinical histories and cerebral angiograms of 315 patients with arteriovenous malformations. Overall annual hemorrhage rate was 2.4%. Factors associated with hemorrhage included a previous bleed, single draining vein, and diffuse arteriovenous malformation morphology. Two angiographic figures.□J.S.R.

van den Berg JSP, Limburg M, Hennekam RCM. **Is Marfan syndrome associated with symptomatic intracranial aneurysms?** *Stroke* 1996;27:10–12

In a word, No, according to this report.□J.S.R.

Solomon RA, Mayer SA, Tarmey JJ. **Relationship between the volume of craniotomies for cerebral aneurysm performed at New York state hospitals and in-hospital mortality.** *Stroke* 1996;27:13–17

Surprise—hospitals that perform more aneurysm operations have lower mortality rates.□J.S.R.

From Miami (Fla) Children's Hospital (N.A.), University Hospital, Ann Arbor, Mich (J.A.B.), Bowman Gray School of Medicine, Winston-Salem, NC (A.D.E.), New York (NY) University Medical Center (A.E.G.), Hospital of the University of Pennsylvania, Philadelphia (D.B.H.), University of California at Los Angeles School of Medicine (R.B.L.), the Cleveland (Ohio) Clinic Foundation (J.S.R.), the Germantown Hospital and Medical Center, Philadelphia, Pa (J.D.S.), the University of Pittsburgh (Pa) School of Medicine (J.L.W.), and New England Medical Center Hospital, Boston, Mass (S.M.W.).

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Temporal Bone

Soylu L, Aydogan B, Soylu M, Ozsahinoglu C. **Hearing loss in Behçet's disease.** *Ann Otol Rhinol Laryngol* 1995; 104:864–867

Sensorineural hearing loss is a well-known clinical manifestation of Behçet disease, reported variously in 12% to 80% of patients studied in the literature. The authors briefly review clinical information available regarding this process. No reference to imaging is made. However, the imaging specialist should be aware that hearing loss does occur in this disorder.□J.D.S.

Birzgalis AR, Hartley RH, Lyons TJ, Farrington WT. **External ear canal cholesteatoma.** *Ann Otol Rhinol Laryngol* 1995;104:868–870

A single, moderately useful, medium-resolution CT scan demonstrates an erosive lesion subjacent to the external auditory canal on the right. This was subsequently proved to be an external auditory canal cholesteatoma. The authors emphasize that this is typically a more localized erosive process than keratosis obturans. The authors speculate about the cause of this lesion and emphasize local trauma as an etiologic factor (Q-tip). It is unclear what role imaging played in this particular lesion, as their case appears to be an unusually florid example of this process.□J.D.S.

Isaacson JE, Laine F, Williams GH. **Pneumolabyrinth as a computed tomographic finding in poststapedectomy vertigo.** *Ann Otol Rhinol Laryngol* 1995;104:974–976

Axial and coronal high-resolution CT images are used to demonstrate air within the vestibule in a patient who had prosthetic stapedectomy. The authors review the causes of poststapedectomy vertigo, which include prosthesis subluxation into the vestibule, perilymph fistula, labyrinthitis, and endolymphatic hydrops. My opinion is that the presence of air within the vestibule in this case is de facto evidence of the presence of a perilymph fistula in that it implies a communication between the middle and inner ear. The patient was treated successfully without surgery. □J.D.S.

Horn KL, Erasmus MD, Akiya FI. **Suppurative petrous apicitis: osteitis or osteomyelitis? an imaging case report.** *Am J Otolaryngol* 1996;17:54–57

Well-illustrated substantive case report demonstrates suppurative petrous apicitis with epidural abscess formation developing secondary to acute otomastoiditis. Follow-up CT demonstrated pneumatization of the anterior portion of the petrous apex on the pathologic side. The authors succinctly review the controversy regarding the necessity of petrous apex pneumatization in the development of this disease process. Very interesting reading. □J.D.S.

Seizure Disorders

Spencer SS. **MRI and epilepsy surgery.** *Neurology* 1995; 45:1248–1250

Jack CR Jr, Trenerry MR, Cascino GD, Sharbrough FW, So EL, O'Brien PC. **Bilaterally symmetric hippocampi and surgical outcome.** *Neurology* 1995;45:1353–1358

Berkovic SF, McIntosh AM, Kalnins RM, et al. **Preoperative MRI predicts outcome of temporal lobectomy: an actuarial analysis.** *Neurology* 1995;45:1358–1363

MR can show almost 100% of structural lesions that are associated with epilepsy and can show the temporal lobe changes of mesial temporal sclerosis. Some patients with negative MR scans and clinical temporal lobe epilepsy may be operated on successfully and some patients with abnormal MR scans have unsuccessful surgery. Spencer's editorial comments should be reviewed with the two accompanying articles, which further expand knowledge of the use of MR in patients with temporal lobe epilepsy. □S.M.W.

Nose, Paranasal Sinuses, Face, and Oral Cavity

McGuirt WF, Keyes JW, Greven K, et al. **Preoperative identification of benign versus malignant parotid masses: a comparative study including positron emission tomography.** *Laryngoscope* 1995;105:579–584

In 26 patients with parotid masses, positron emission tomography, CT, and MR were performed. Positron emission tomography showed all 26 lesions and all 12 malignant lesions, but indicated the correct categorization in only 69% of cases. This is compared with 85% for clinical examination and 87% for CT and MR.□R.B.L.

Namon AJ. **Mucocele of the inferior turbinate.** *Ann Otol Rhinol Laryngol* 1995;104:910–912

Three CT images show an expansile mass involving the inferior turbinate of the left nasal cavity. The authors review the various causes of inferior turbinate enlargement and correctly point out that mucocele formation is occasionally shown to arise from the *middle turbinate*, which may be pneumatized by growth of ethmoid cells. By contrast, the *inferior turbinate* is solid bone. The authors were unable to explain clearly the cause of mucocele in this case, but suggest that development was perhaps within an aberrant air cell related to *maxillary sinus* development. □J.D.S.

Efficacy Studies

Steinke W, Meairs S, Ries S, Hennerici M. **Sonographic assessment of carotid artery stenosis: comparison of power Doppler imaging and color Doppler flow imaging.** *Stroke* 1996;27:91–94

Power Doppler generates vascular color signals from the amplitude of the echo, depending on the density of red blood cells. Twenty-five carotid stenoses were evaluated with color and power Doppler. Power Doppler showed the residual lumen of the stenosis better; color flow suffered with calcified plaques. Two color figures.□J.S.R.

Griewing B, Morgenstern C, Driesner F, Kallwellis G, Walker ML, Kessler C. **Cerebrovascular disease assessed by color-flow and power Doppler ultrasonography: comparison with digital subtraction angiography in internal carotid artery stenosis.** *Stroke* 1996;27:95–100

Fifty-four patients with extracranial internal carotid stenoses were evaluated with color flow and power Doppler and digital subtraction angiography. Power Doppler showed the stenosis more accurately than color flow Doppler. Power Doppler is proposed as a complementary imaging method with advantages over color flow. Two color figures.□J.S.R.

Rutigliano MJ. **Cost effectiveness analysis: a review.** *Neurosurgery* 1995;37:436–444

The theoretical basis of medical cost-effectiveness analysis is discussed with an emphasis on providing an understanding of the method, its use, and its limitations. The vocabulary and concepts of this process, somewhat at variance with our usual clinical training and perspectives, will be increasingly important for understanding the economic imperatives that continue to modify our clinical and academic practices.□J.A.B.

BOOKS RECEIVED

Imaging of the Pediatric Head, Neck, and Spine. By Mauricio Castillo and Suresh K. Mukherji. Philadelphia, Pa: Lippincott-Raven, 768 pp, 1996. $149

Magnetic Resonance Imaging of the Brain and Spine. 2nd ed. Edited by Scott Atlas. Philadelphia, Pa: Lippincott-Raven, 1696 pp, 1996. $245

Radiosurgery 1995. Edited by Douglas Kondziolka. New York, NY: Karger, 350 pp, 1995. $295

Essentials of Radiology. By Fred A. Mettler, Jr. Philadelphia, Pa: WB Saunders, 451 pp, 1996. $34.95

Tropical Neurology. Edited by Raad A. Shakir, Peter K. Newman, and Charles M. Poser. Philadelphia, Pa: WB Saunders, 485 pp, 1996. $75

Radiographic Pathology Workbook. By Terri Ann Linn-Watson. Philadelphia, Pa: WB Saunders, 251 pp, 1996. $20

Radiographic Pathology. By Terri Ann Linn-Watson. Philadelphia, Pa: WB Saunders, 315 pp, 1996. $40

Essentials of Ultrasound. By Michael R. Williamson. Philadelphia, Pa: WB Saunders, 266 pp, 1996. $45

Books, AV programs, and software intended for review should be sent to:

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