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Annotated Bibliography

Nolan Altman,[1] James A. Brunberg,[2] Allen D. Elster,[3] Ajax E. George,[4] David B. Hackney,[5] Robert B. Lufkin,[6] Jeffrey S. Ross,[7] Alison S. Smith,[8] Joel D. Swartz,[9] and Samuel M. Wolpert[10]

Wilhelm CS, Marra CM. Chronic miningitis. *Semin Neurol* 1992;12:234–247

An extensive discussion of common and not so common infectious and noninfectious causes of chronic meningitis is presented in this well-referenced clinical review. Although the manuscript does not include significant imaging data, it will be useful in expanding the differential diagnosis of the radiologist who encounters enhancement and thickening of the meninges on MR studies.□JAB

Achiron A, Ziv I, Djaldetti R, Goldberg H, Kuritzky A, Melamed E. Aphasia in multiple sclerosis: clinical and radiologic correlations. *Neurology* 1992;42:2195–2197

Motor aphasia is surprisingly rare in patients with MS. Two cases are reported showing large (5 cm +) plaques in the left frontal hemisphere in one patient and left centrum semiovale in the other. Authors suggest that development of aphasia is a manifestation not only of site of lesion but also of its size.□SMW

Caplan LR, Amarenco P, Rosengart A, et al. Embolism from vertebral artery origin occlusive disease. *Neurology* 1992;42:1505–1512

Atherosclerotic disease of the vertebral artery origin has features in common with diseases of the internal carotid origin. Both have similar risk factors and demography, and each can cause stroke by intracranial intraarterial embolism.□SMW

Caselli RJ, Jack CR Jr, Petersen RC, Wahner HW, Yanagihara T. Asymmetric cortical degenerative syndromes: clinical and radiologic correlations. *Neurology* 1992;42:1462–1468

This study utilizing planar MR and MR-based surface or volume renderings demonstrated focal areas of atrophy that correlated well with slowly progressive focal neurologic syndromes. Single-photon emission computed tomography (SPECT) showed corresponding hypoperfusion but abnormal areas with SPECT were larger than those suggested by MR.□SMW

DeCarli C, Haxby JV, Gillette JA, Teichberg D, Rapoport SI, Schapiro MB. Longitudinal changes in lateral ventricular volume in patients with dementia of the Alzheimer type. *Neurology* 1992;42:2029–2036

The rate of total lateral ventricular enlargement (cm^3/yr) is significantly different between patients with dementia of the Alzheimer type (DAT) and age-matched and sex-matched controls. Furthermore, the rate of enlargement was more specific and sensitive to the diagnosis of DAT than comparison of volumes at final evaluation. The study was carried out through CT analysis in patients followed for 9 months to over 7 years.□SMW

DiTullio M, Sacco RL, Gopal A, Mohr JP, Homma S. Patent foramen ovale as a risk factor for cryptogenic stroke. *Ann Intern Med* 1992;117:461–465

Patients with cryptogenic stroke have a higher prevalence of patent foramen ovale than patients with stroke of determined cause in all age groups, even after correcting for the presence of recognized stroke factors. Thus a patent foramen ovale is a risk factor for cryptogenic stroke and regardless of age, echocardiography should be considered when the cause of stroke is unknown.□SMW

Fletcher RH, Fletcher SW. Editorial: Has medicine outgrown physical diagnosis? *Ann Intern Med* 1992;117:786–787

As technology-based diagnosis has grown more exciting, it has been difficult to contain its use. As the technology juggernaut threatens to overrun other valuable elements of the diagnostic process, clinicians need to improve their diagnostic skills, sort out when specific elements of physical diagnosis are sufficient and when more complicated diagnostic tests really are indispensable. The technological tests must not be used because of laziness or a neurotic wish to be completely sure.□SMW

Horowitz DR, Tuhrim S, Budd J, Goldman ME. Aortic plaque in patients with brain ischemia: diagnosis by transesophageal echocardiography. *Neurology* 1992;42:1602–1604

Utilizing transesophageal echocardiography, the authors found mobile, frond-like projections of aortic plaque in 4% of patients with brain ischemia studied for emboli from a potential cardiac or vascular source. Previously unsuspected aortic plaque may be a underdiagnosed embolic source of stroke.□SMW

Kuzniecky R, Elgavish GA, Hetherington HP, Evanochko WT, Pohost GM. In vivo ^{31}P nuclear magnetic resonance spectroscopy of human temporal lobe epilepsy. *Neurol-*

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ogy **1992;42:1586–1590**

In vivo ^{31}P NMR spectroscopy yields a distinctive interictal metabolic profile in patients with intractable unilateral temporal lobe epilepsy, and may permit noninvasive lateralizing evidence of the seizure focus.□SMW

Libman RB, Sacco RL, Shi T, Tatemichi TK, Mohr JP. Neurologic improvement in pure motor hemiparesis: implications for clinical trials. ***Neurology*** **1992;42:1713–1716**

Patients with pure motor hemiparesis following a stroke show significant spontaneous improvement in weakness within 7–10 days of admission compared to patients with other stroke syndromes. Patients with pure motor hemiparesis usually have lacunar infarcts in a subcortical or basal ganglia location whereas patients with other stroke syndromes have cortically located infarcts. Stratification by stroke syndrome may be necessary in the design and analysis of acute stroke intervention trials to avoid confounding factors such as differences in the early natural history of strokes.□SMW

Rinkel GJE, Wijdicks EFM, Vermeulen M, Tans JTJ, Hasan D, van Gijn J. Acute hydrocephalus in nonaneurysmal perimesencephalic hemorrhage: evidence of CSF block at the tentorial hiatus. ***Neurology*** **1992;42:1805–1807**

In patients with nonaneurysmal perimesencephalic hemorrhage, the presence of blood filling the perimesencephalic cisterns is necessary for hydrocephalus to occur, whereas in patients with aneurysmal subarachnoid hemorrhage the most powerful predictor for the presence of acute hydrocephalus is the presence of an intraventricular hemorrhage. The incidence of hydrocephalus in the first group is 28%, whereas it is between 5% and 10% in patients with aneurysmal subarachnoid hemorrhage.□SMW

Warach S, Chien D, Li W, Ronthal M, Edelman RR. Fast magnetic resonance diffusion-weighted imaging of acute human stroke. ***Neurology*** **1992;42:1717–1723**

Acute infarcts can be seen with MR diffusion-weighted imaging as early as is clinically practical, when conventional CT and MR imaging may fail to demonstrate the lesion. The technique takes less than 2 minutes to apply using a standard 1.5-T scanner and therefore has a potential role in improving the diagnosis of stroke and the development and implementation of early stroke interventions.□SMW

Watson C, Andermann F, Gloor P, et al. Anatomic basis of amygdaloid and hippocampal volume measurement by magnetic resonance imaging. ***Neurology*** **1992;42:1743–1750**

Another paper on the normal measurements of the amygdala and hippocampus as seen on a 3-D gradient-echo fast-field sequences utilizing 3-mm thick coronal views.□SMW

Weissman JL. Thornwaldt cysts. ***Am J Otolaryngol*** **1992;13:381–385**

A cystic mass in the midline of the roof of the nasopharynx between the longus capitis muscles likely represents a Thornwaldt cyst that occurs secondary to obstruction of the pharyngeal bursa (embryonic communication between the roof of the nasopharynx and the notochord). This is a concise review of the embryology, development, imaging, and differential diagnosis of this relatively uncommon entity. Image quality is excellent.□JDS

Yanagasawa K, Kveton JF. Referred otalgia. ***Am J Otolaryngol*** **1992;13:323–327**

Referred otalgia accounts for up to 50% of all complaints of ear pain and may result from a significant disease process in the oral cavity, pharynx, or larynx. This article provides a thorough review based in anatomy of the causes of referred otalgia. No images.□JDS

Andrews TM, Myer CM. Malignant (atypical) carcinoid of the larynx occurring in a patient with laryngotracheal papillomatosis. ***Am J Otolaryngol*** **1992;13:238–242**

A single high-quality axial CT image demonstrates an unusual anterior neck mass. Report emphasizes that this lesion is classified as a neuroendocrine carcinoma. This category includes this lesion as well as the typical carcinoid (mature carcinoid) and "small cell neuroendocrine carcinomas" (including out cell type, the intermediate cell type, and combined cell type). The authors mentioned that this tumor was grossly indistinguishable from squamous cell carcinoma but was easily differentiated histologically.□JDS

Storper IS, Calcaterra TC. Laryngeal edema induced by neck dissection and catheter thrombosis. ***Am J Otolaryngol*** **1992;13:101–104**

Acute laryngeal edema resulted from obstruction to venous outflow following radical neck dissection and catheter thrombosis. Internal jugular vein thrombosis demonstrated with CT.□JDS

Weissman JL, Curtin HD. Pneumolabyrinth: a computed tomographic sign of temporal bone fracture. ***Am J Otolaryngol*** **1992;13:113–114**

Two high-quality axial CT images demonstrate a pneumolabyrinth. The pneumolabyrinth was caused by a transverse fracture. The authors emphasize that an identical finding could result from disruption of the stapes footplate at the oval window.□JDS

Wurman LH, Sack JG, Flannery JV, Lipsman RA. The management of epistaxis. ***Am J Otolaryngol*** **1992;13:193–209**

High-quality review of anatomy, pathophysiology, and treatment of both anterior and posterior epistaxis. The anatomical review is highly useful to the radiologist. No useful images.□JDS

Hirsch BE. Infections of the external ear. *Am J Otolaryngol* 1992;13:145–155

Detailed review of otitis externa includes sections on anatomy as well as a discussion of miscellaneous causes. Treatment is also emphasized. No images are included.□JDS

Cunningham MJ. The management of congenital neck masses. *Am J Otolaryngol* 1992;13:78–92

A highly detailed review of the development and management of the most common congenital neck masses. Discussion includes brachial anomalies, thyroid gland anomalies, thymus gland anomalies, dermoid and teratoid cysts, laryngocele, vascular anomalies, and cystic hygromas/lymphangioma. The discussion is highly worthwhile to the radiologist, despite the fact that there are no images in this review.□JDS

Arriaga MA, Lo WWM, Brackmann DE. Magnetic resonance angiography of synchronous bilateral carotid body paragangliomas and bilateral vagal paragangliomas. *Ann Otol Rhinol Laryngol* 1992;101:955–957

MR/MR angiography demonstration of fascinating case. Excellent quality images.□JDS

Berenholz LP, Eriksen C, Hirsh FA. Recovery from repeated sudden hearing loss with corticosteroid use in the presence of an acoustic neuroma. *Ann Otol Rhinol Laryngol* 1992;101:827–831

Sudden hearing loss (SHL) may have autoimmune, infectious, toxic, vascular, and neoplastic causes or be caused by labyrinthine membrane rupture. Meniere disease and multiple sclerosis are also possible causes. SHL has been reported as the presenting symptom in 1%–14.2% of patients with acoustic neuroma. The authors report a patient with sudden right-sided hearing loss (only hearing ear) subsequently proven to have an intracanalicular acoustic neuroma (demonstrated with MR) whose hearing responded to steroid treatment. The authors emphasized the importance of obtaining contrast-enhanced MR in all patients with SHL regardless of their response to steroids.□JDS

Welsh LW, Welsh JJ, Gregor FA. Radiographic analysis of deep cervical abscesses. *Ann Otol Rhinol Laryngol* 1992;101:854–860

The authors illustrate seven cases with plain film and/or CT. MR is not included nor discussed in this publication. The report includes anatomy, although not as detailed as that to which we have become accustomed, as well as a discussion of sources of infection and spread of infection.□JDS

Baum PA, Dillon WP. Imaging case study of the month: utility of magnetic resonance imaging in the detection of subdural empyema. *Ann Otol Rhinol Laryngol* 1992;101:876–878

The authors describe a case of sinusitis, orbital cellulitis, and subdural empyema following a spider bite. Despite excellent quality CT images, enhanced MR was required to diagnose the intracranial process. Excellent quality images.□JDS

Prasad S, McBride TP, Merida M, Katz NM. Imaging case study of the month: double aortic arch. *Ann Otol Rhinol Laryngol* 1992;101:872–875

Although infantile stridor is never normal, biphasic stridor much more often implies a pathologic condition. Causes include: hemangioma, stenosis, and goiter as well as numerous types of vascular compression. The authors describe a case of double aortic arch, an anomaly that occurs because of failure of resorption of the right distal fourth aortic arch during embryogenesis. Lateral plain film, axial CT, and frontal angiography are included with accompanying diagrams.□JDS

Lauretano AM, Cunningham MJ, Weber AL. Imaging case study of the month: intraparotid hematoma. *Ann Otol Rhinol Laryngol* 1992;101:791–793

The authors describe a rapidly enlarging painless left facial mass occurring after incidental trauma in a 6-year-old boy. An intraparotid hematoma was removed at surgery. This extremely rare entity is illustrated with limited quality axial and coronal CT scans.□JDS

Varvares MA, Cheney ML, Goodman ML, et al. Chondroblastoma of the temporal bone: case report and literature review. *Ann Otol Rhinol Laryngol* 1992;101:763–769

The authors report and illustrate a benign chondroblastoma arising within the temporal bone. The destructive lesion is illustrated with axial and coronal CT.□JDS

Eavey RD, Janfaza P, Chapman PH, et al. Skull base dumbbell tumor: surgical experience with two adolescents. *Ann Otol Rhinol Laryngol* 1992;101:939–945

Both cases are well-illustrated intracranial/extracranial dumbbell tumors extending through foramen ovale. Case 1: CT/MR-spindle cell carcinoma; case 2: MR/chondrosarcoma.□JDS

Takahashi H, Sando I. Facial canal dehiscence: histologic study and computer reconstruction. *Ann Otol Rhinol Laryngol* 1992;101:925–930

The dehiscent facial nerve is a potential hazard during exploratory middle ear surgery. These authors found that middle ear dehiscence occurred in 74% of their histologic sections. The most common locations were the oval window (posterior half) (57%), cochleariform process (16%), second genu (21%), and mastoid segment (18%). Photomicrographs only.□JDS

Goldberg RA, Wu JC, Jesmanowicz A, Hyde JS. Eyelid anatomy revisited: dynamic high resolution magnetic resonance images of Whitnall's ligament and upper eyelid structures with the use of a surface coil. *Arch Ophthalmol* 1992;110:1598–1600

High-resolution sagittal surface coil images allow for submillimeter resolution of the orbital septum, levator apo-

neurosis, Muller's muscle, and orbital septa. Emphasis is placed on Whitnall's superior orbital ligament.□JDS

Margo CE, Hamed LM, Fang E, Dawson WW. Optic nerve aplasia. *Arch Ophthalmol* 1992;110:1610–1613

High-Quality T1-weighted MR images demonstrate this unusually rare anomaly, in this case unilateral. Single case report.□JDS

McCann P, Herbert J, Feldman F, Kelly M. Neuropathic arthropathy associated with neurofibromatosis. *J Bone Joint Surg* 1992;74A:1411–1414

This case report describes the MR, CT, and plain film lumbar spine findings as well as peripheral knee radiographic findings of a patient with a severe peripheral neuropathy related to multiple peripheral spinal nerve root schwannomas. This earlier peripheral neuropathy lead to a Charcot knee.□JSR

Alarcon F, Koenraad V, Moncayo J, Vinan I. Cerebral cysticercosis as a risk factor for stroke in young and middle-aged people. *Stroke* 1992;23:1563–1565

This study shows that cerebral cysticercosis is a risk factor for stroke in young and middle-aged patients. After controlling for a possible confounding factor, the authors found that arterial hypertension, cardiac disease, and cerebral cysticercosis were independent risk factors for stroke.□JSR

Gideon P, Henriksen O, Sperling B, Christiansen P, Olsen TS, Jorgensen S, Arlien-Soborg P. Early time course of *N*-acetylaspartate, creatine and phosphocreatine, and compounds containing choline in the brain after acute stroke: a proton magnetic resonance spectroscopy study. *Stroke* 1992;23:1566–1572

This study showed that NAA content is reduced in the infarcted brains of eight patients, but this decrease occurred between 6 and 24 hours after ictus. The reduction of NAA was greater in the central part than in the peripheral part of the VOL.□JSR

Busza AL, Allen KL, King MD, vanBruggen N, Williams SR, Gadian DG. Diffusion-weighted imaging studies of cerebral ischemia in gerbils: potential relevance to energy failure. *Stroke* 1992;23:1602–1612

This study showed that diffusion-weighted images were unchanged until blood-flow was reduced to 15–20 ml. $100g^{-1}$ min^{-1} and below, which is similar to the threshold for maintenance of tissue high-energy metabolites and ion homeostasis. The authors raise the possibility of imaging energy failure noninvasively.□JSR

van der Meulen JHP, Weststrate W, van Gijn J, Habbema JDF. Is cerebral angiography indicated in infective endocarditis? *Stroke* 1992;23:1662–1667

The authors quantitatively estimated the clinical value of cerebral angiography and surgery for patients with infective endocarditis, and demonstrated that it is better not to perform cerebral angiography routinely in patients with infective endocarditis. The specific subgroups in whom angiography might be beneficial have not been identified.□JSR

Heiss WD. Experimental evidence of ischemic thresholds and functional recovery. *Stroke* 1992;23:1668–1672

This review concludes that evidence indicates a clear ischemic threshold for functional impairment, and for biochemical disturbances leading to cell destruction. However, the point of no return is still undefined.□JSR

Knop J, Thie A, Fuchs C, Siepmann G, and Zeumer H. ^{99m}Tc-HMPAO-SPECT with acetazolamide challenge to detect hemodynamic compromise in occlusive cerebrovascular disease. *Stroke* 1992;23:1733–1742

Twenty-one symptomatic patients (transitory ischemic attack or small stroke) were evaluated with ^{99m}Tc-HMPAO-SPECT before and after acetazolamide (ACZ) challenge. This study shows that pre-ACZ/post ACZ ^{99m}Tc-HMPAO-SPECT is a feasible method for detecting the efficacy of collateral channels in cerebrovascular obstructions. Color plates of SPECT images and cortical activity profiles.□JSR

Kittner SJ, Sharkness CM, Sloan MA, Price TR, Dambrosia JM, Tuhrim S, Wolf PA, Mohr JP, Hier DB. Features on initial computed tomography scan of infarcts with a cardic source of embolism in the NINDS stroke data bank. *Stroke* 1992;23:1748–1751

This study found that patients with strokes who are at high clinical risk for a cardiac source for emboli are more likely to have strokes involving 1/2 lobe or larger, involving both superficial and deep structures. Deep small infarcts had a negative association with the presence of a cardiac source.□JSR

Ueda S, Fujitsu K, Inomori S, Kuwabara T. Thrombotic occlusion of the middle cerebral artery. *Stroke* 1992;23:1761–1766

This study found that good collateral circulation on angiography was associated with improved clinical and CT outcomes with proximal and distal M1 occlusions, but not M2 occlusion.□JSR

Wardlaw JM, Warlow CP. Thrombolysis in acute ischemic stroke: does it work? *Stroke* 1992;23:1826–1839

Comprehensive review of six randomized trials of thrombolysis in acute ischemic stroke.□JSR

Siesjö BK. Pathophysiology and treatment of focal cerebral ischemia. II. Mechanisms of damage and treatment. *J Neurosurg* 1992;77:337–354

This comprehensive review focuses upon three principal cellular and molecular mechanisms involved in the production of brain injury in cerebral infarction: increased cytosolic Ca^{2+}, acidosis, and free radical formation. Pharmacologic

interventions using glutamate antagonists, calcium channel blockers, and free radical scavengers are discussed.□ADE

Berkman RA, Clark WC, Saxena A, Robertson JT, Oldfield EH, Ali IU. Clonal composition of glioblastoma multiforme. *J Neurosurg* 1992;77:432–437

Strong evidence is presented from X-chromosome inactivation and somatic deletion analysis that most glioblastomas are monoclonal—that is, they result from proliferation of a single mutated cell rather than arising as a diffuse transformation of many cells. The critical genetic deletions responsible are on chromosome 10 and/or 17.□ADE

Guglielmi G, Viñuela F, Duckwiler G, et al. Endovascular treatment of posterior circulation aneurysms by electrothrombosis using electrically detachable coils. *J Neurosurg* 1992;77:515–524

Results of this technique in 120 patients from a multicenter study are reported with a good discussion of the technique, its limitations, and several illustrative cases.□ADE

Young JN, Oakes WJ, Hatten HP Jr. Dorsal third ventricular cyst: an entity distinct from holoprosencephaly. *J Neurosurg* 1992;77:556–561

Six patients having dorsal third ventricular and interhemispheric cysts are presented, together with clinical and radiographic features, suggesting that this lesion be classified as a distinct entity separate from holoprosencephaly.□ADE

Wisoff JH, Epstein F. Surgical management of symptomatic pineal cysts. *J Neurosurg* 1992;77:896–900

Pineal cysts, although benign and usually discovered incidentally, may occasionally cause symptoms, as illustrated in this surgical series of six patients with a variety of signs and complaints, including paroxysmal headache, gaze paresis, and acute hydrocephalus.□ADE

van der Zwan A, Hillen B, Tulleken CA, Dujovny M, Dragovic L. Variability of the territories of the major cerebral arteries. *J Neurosurg* 1992;77:927–940

Injection studies in 25 brains obtained at autopsy reveal a considerably greater variation in distribution among the anterior cerebral artery, middle cerebral artery, and posterior cerebral artery territories than is generally appreciated. A good review and critique of previous injection studies is also presented.□ADE