Abstracts

AB-2256-75

A system of grouping patients according to preoperative evaluation of risk of carotid endarterectomy is presented. The primary complications of this surgical procedure were myocardial infarction and residual mild to severe neurologic deficit. Neurologically stable patients without medical or angiographically determined risk factors (group 1, 129 patients) have a risk of 1%. Neurologically stable patients without medical risk but with angiographically determined risks (group 2, 56 patients) have a risk of 2%. Neurologically stable patients with significant medical illness and with or without angiographically determined risks (group 3, 76 patients) have a risk of 7%, primarily related to cardiac disease. Neurologically unstable patients (group 4, 70 patients) have a 10% risk for a neurologic deficit.

AB-2257-75

The results of angiographic investigation of 211 patients suffering from transient cerebral ischemic attacks in the carotid territory have been reviewed. The greatest proportion of patients with carotid stenosis and who were referred for endarterectomy were those with a neck bruit ipsilateral to the affected hemisphere. Ocular involvement (amaurosis fugax) was associated with a still higher prevalence of angiographic abnormality, and carotid occlusion was commonest in this group. The implications for the management of patients with transient ischemic attacks are discussed.

AB-2258-75
Aspirin and Coronary Heart Disease: Findings of a Prospective Study — Hammond EC (Department of Epidemiology and Statistical Research, American Cancer Society, New York, New York), Garfinkel L — Brit Med J 2:269-271 (May 3) 1975*

Over 1,000,000 men and women answered a confidential questionnaire and were traced for up to six years afterward. Among other questions, each person was asked how often he or she took aspirin — “never,” “seldom,” or “often.” Coronary heart disease death rates were no lower among people who took aspirin often than among those who did not do so.

AB-2259-75
The Value of Colour Subtraction of Angiograms Particularly in Cerebro-Vascular Disease — Chehata O, du Boulay G (Lysholm Radiological Department, The National Hospital, Queen Square, London, England) — Brit J Radiol 48:360-365 (May) 1975*

Eighty color subtractions of cerebral angiograms have been analyzed to assess their value in actual diagnosis, particularly of cerebrovascular disease. The method has been found to be so valuable, either for confirmation of the findings seen on the original angiograms or in providing new data about the accurate localization and nature of the lesion, that it has now become a routine for all cerebrovascular cases. A selection of cases is presented and the limitations of the method discussed.

AB-2260-75
Circulatory and Metabolic Effects of Glycerol Infusion in Patients With Recent Cerebral Infarction — Meyer JS (Department of Neurology, Baylor College of Medicine, Houston, Texas 77025), Itoh Y, Okamoto S, Welch KMA, Mathew NT, Ott EO, Sato S, Miyakawa Y, Chabi E, Ericsson AD — Circulation 51:701-712 (Apr) 1975*

The effect of intravenous infusion of 10% glycerol on regional cerebral blood flow (using hydrogen bolus and Xenon-133 [133Xe] clearance methods) and metabolism was investigated in 57 patients with recent cerebral infarction. Hemispheric blood flow (HBF) increased, together with increase in regional cerebral blood flow (rCBF) and cerebral blood volume (rCBV), in foci of brain ischemia. Hemispheric oxygen consumption (HMOI,0) decreased together with hemispheric respiratory quotient. Systemic blood levels of glucose, lactate, pyruvate, and triglycerides also increased after glycerol while free fatty acids (FFA) and inorganic phosphate (P,) decreased. Hemispheric glucose consumption was unaltered after glycerol so that hemispheric glucose to oxygen ratio tended to rise. Pyruvate and lactate production by brain was unchanged. Glycerol moved across the blood-brain barrier into brain and cerebrospinal fluid (CSF). Release of FFA and P; from infarcted brain was reversed by glycerol. Total phosphate balance was maintained across brain both before and after glycerol infusion. Triglycerides increased in CSF after glycerol, originating either from cerebral blood or as a result of lipogenesis in cerebral tissue. The EEG recording and neurological status of the patients improved despite decreased brain oxygen consumption. Results of this study suggest that after intravenous infusion of 10% glycerol in patients with recent cerebral infarction, glycerol rapidly enters the CSF and brain compartments and favorably affects the stroke process in two ways; first, by redistribution of cerebral blood flow with increase in rCBF and rCBV in ischemic brain secondary to reduction in focal cerebral edema; and second, glycerol may become an alternative source of energy either by being directly metabolized by the brain, or indirectly, by enhancing lipogenesis, or by both processes. Involvement of glycerol in lipogenesis with enzymatic to accumulated FFA might lead to improved coupling of oxidative phosphorylation, a hypothesis that fits the finding of improved neuronal function despite further decrease in cerebral hemispheric oxygen consumption.

AB-2261-75
Reduced Baroreceptor Sensitivity in Borderline Hypertension — Takeshita A (Research Institute of...
The sensitivity of the baroreceptor reflex in nine patients with borderline hypertension (mean age 19.1 ± 0.2 years) was compared to that in six normal subjects of comparable age (mean 18.8 ± 0.3 years) and that in 14 patients with established hypertension (mean age 48.3 ± 3.1 years). The sensitivity of the baroreceptor reflex was assessed by determining the slope of the regression line relating the rise of systolic pressure to the prolongation of the R-R interval during the transient rise of arterial pressure induced by an intravenous injection of phenylephrine. The average baroreceptor slope in nine patients with borderline hypertension was 9.1 ± 0.8 msec/mm Hg, which was significantly less than that in six normal subjects (16.0 ± 2.0; P < 0.01), but was greater than that in 14 patients with established hypertension (4.9 ± 0.7; P < 0.01). The significant negative correlation was found as the baroreceptor slope was related to the mean arterial pressure in patients with borderline hypertension and normal subjects, all of whom were 20 years old or less. Attenuation of the baroreceptor sensitivity may influence the maintenance of raised arterial pressure in borderline hypertension.

ABSTRACTS

Angiocardiology and Cardiovascular Clinic, Kyushu University Medical School, Fukuoka, Japan, Tanaka S, Kuroiwa A, Nakamura M — Circulation 51:738-742 (Apr) 1975*

...
Two cases of arteriovenous malformation of the choroid plexus are presented, bringing the number of such cases reported to 16. One of these was successfully removed surgically after two episodes of intraventricular hemorrhage. The other was found incidentally at autopsy and had produced an asymmetric hydrocephalus. Overproduction with a more forceful propulsion of cerebrospinal fluid may be the mechanism producing this effect. These lesions should be considered in cases of unexplained intraventricular hemorrhage.

AB-2267-75
Myxoma-Like Features of Organizing Thrombi in Arteries and Veins — Salyer WR (Department of Pathology, The Johns Hopkins University School of Medicine and Hospital, Baltimore, Maryland 21205), Salyer DC — Arch Path 99:307-311 (June) 1975*

Evidence for the development of the cardiac myxoma from organizing thrombi has been presented previously. In this study, many of the features of the myxoma were observed in organizing thrombi in arteries and veins.

Individual undifferentiated mesenchymal cells, cords of similar cells, vascular bud-like cellular aggregates, fibroblasts, well-formed vessels, and multiwalled vessels set within a loose, mucoid ground substance were present in the thrombi. These areas resembled the basilar layer of the cardiac myxoma. Cartilage-like cells, like those in the superficial zone of myxomas, were noted in some thrombi, and ossification had occurred rarely.

These observations support a thrombogenic origin of the myxoma. Local physical factors may provide the stimulus for varying differentiation of mesenchymal cells in both the peripheral thrombi and the myxoma.

AB-2268-75
Arterial Fibrodysplasia. Histopathologic Character and Current Etiologic Concepts — Stanley JC (Department of Surgery, University of Michigan Medical Center, Ann Arbor, Michigan 48104), Gewertz BL, Bove EL, Sottiuari V, Fry WJ — Arch Surg 110:561-566 (May) 1975*

Arterial fibrodysplasia affected 196 patients (172 females, 24 males) harboring a total of 316 diseased vessels. Renal artery lesions were documented in 152 adult and 25 pediatric patients. Extracranial cerebrovascular arterial dysplasia affected 17 patients. Superior mesenteric, celiac, common hepatic, and external iliac arteries were occasionally involved. Intimal fibroplasia and medial hyperplasia are uncommon types of arterial dysplasia. Media fibroplasia represents a continuum of disease, including pathologic processes heretofore categorized as subadventitial or perimedial fibroplasia. A previously unrecognized form of perimedial dysplasia, characterized by dense accumulations of elastic tissue about the periphery of the media, is reported as a distinct pathologic entity. Hormonal influences, traction-stretch stresses, and peculiarities in distribution of vasa vasorum in vessels affected by dysplastic processes may be prerequisite to the evolution of arterial fibrodysplasia.

AB-2269-75
The Transient Global Amnesia Syndrome. An Analysis of 35 Cases — Fogelholm R (Department of Neurology, University of Helsinki, Helsinki, Finland), Kivalo E, Bergström L — Europ Neurol 13:72-84, 1975*

On basis of 35 patients who have suffered from transient global amnesia the pathophysiological mechanisms of this syndrome are discussed. Our impression is that the primary cause of this syndrome is a transient ischemia of the hippocampus, an opinion common with most earlier authors. The possibility of a unilateral hippocampal disturbance resulting in transient global amnesia is discussed. We are inclined to regard the local hippocampal ischemia as arising from insufficiency of the anterior choroidal artery and thus as a sequel of internal carotid insufficiency, which has earlier been proved to result from various rotatory, flexion, and extension movements of the neck.

AB-2270-75
Evidence for Disordered Cyclic AMP Metabolism in Patients With Cerebral Infarction — Welch KMA, Meyer JS (Department of Neurology, Baylor College of Medicine, Houston, Texas 77025), Chee ANC — Europ Neurol 13:144-153, 1975*

Systemic blood cyclic AMP levels were elevated but urinary excretion was unaltered in patients with recent cerebral infarction. Cerebral venous levels for cyclic AMP were significantly higher than arterial levels. CSF cyclic AMP levels were also elevated. After intravenous 10% glycerol, CSF cyclic AMP levels decreased and cerebral A/V differences were reduced. Elevation of cyclic AMP levels in plasma may be due to alteration of neuroendocrinial function after cerebral infarction and contributed to in part by release from infarcted brain. Cyclic AMP release into cerebral venous blood and CSF suggests (1) blood-brain barrier damage and (2) extracellular cyclic AMP accumulation in infarcted brain secondary to abnormal neurotransmitter release and/or impaired cellular function which appears to be partially reversed by glycerol.

AB-2271-75
Bilan de neuf ans d'expérience de la chirurgie des anévrismes artériels intracrâniens. January 1965-September 1974, 159 Interventions (Analysis of the Results of Nine Years' Experience in the Surgical Treatment of Intracranial Arterial Aneurysm) — Bonnal J (Clinique Neurochirurgicale, Université de Liège, Belgium), Stevenaert A, Brotchi J, Duthier JC — Acta Neurol Belg 74:337-355, 1974*

Two series of cerebral aneurysms are compared. The first was composed of 86 cases. The second, 73 cases, benefited from modern techniques, such as microsurgery, arterial hypotension, Yasargil's clips, bipolar coagulation, as well as from greater experience on the part of the surgical and anesthetic team.

To avoid the risk of recurrent subarachnoidal hemorrhage, the surgical procedure has been done during the first week when consciousness is good or when carotid angiography shows a large cerebral hematoma. The surgical procedure is postponed if the patient shows a low state of consciousness or a cerebral vasospasm. In these cases, controlled external ventricular drainage improves patients' conditions and often allows for surgical intervention after three to five days.

The Botterell classification is used to evaluate the surgical results: good results were obtained in 71% of the entire series, as well as in 94% of grades 1 and 2 patients. The
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overall mortality rate was 15%. That for grades 1 and 2 was 2.7% and that for grades 1, 2 and 3 was 7.5%.

The preoperative, operative and postoperative factors affecting results are discussed with particular attention to cerebral vasospasm and hydrocephalus.

AB-2272-75
Respiratory and Cardiac Abnormalities in Brain-Stem Ischemia — Korczyn AD (Department of Physiology and Pharmacology, Sackler School of Medicine, Tel Aviv University, Tel Aviv, Tel 01) — J Neurol Neurosurg Psychiat 38:187-190 (Feb) 1975*

Two patients are presented who had suffered episodes of ischemia of the brain stem, mainly affecting one side of the pons. In addition to the more usual neurological signs, these two patients had cardiac arrhythmia: one had a sinus arrhythmia, the other a wandering pacemaker. In both patients the hemidiaphragm on the side ipsilateral to the lesion was transiently elevated. The mechanisms responsible for the arrhythmia and the elevated hemidiaphragm are discussed.

AB-2273-75
Venous Channels Within the Intracranial Dural Partitions — Kaplan HA (Division of Neurosurgery, Marland Hospital, Newark, New Jersey 07107), Browder J, Krieger AJ — Radiology 115:641-645 (June) 1975*

Complete dura maters exclusive of their midline basilar attachments were obtained by autopsy from persons of all age groups. Vinlylite casts of the venous channels in the diaphragma sellae, falx cerebri, falx cerebelli, and tentorium cerebelli were made by injecting a mixture of Vinlylite and hydrochloric acid. Studies showed that the size and position of the channels within the diaphragma sellae were quite constant. Large venous lakes were present in the falx cerebri and contiguous subcipiental dura mater, and venous pools were also seen connecting the caudal end of the inferior sagittal sinus and the superior sagittal sinus. A great variety of channels were observed in the tentorium cerebelli.

AB-2274-75
Traumatic Vertebral Artery Pseudoaneurysm Following Chiropractic Manipulation — Davidson KC (Department of Radiology, St. Luke's Hospital, Kansas City, Missouri 64111), Welsh EC, Dixon GD — Radiology 115:651-652 (June) 1975*

A vertebral artery pseudoaneurysm accompanied by serious neurological injury was seen in a 42-year-old woman who had undergone chiropractic manipulation of the neck. Such manipulation is a potential cause of neurological injury due to trauma to the cervical spine and the major vessels of the neck. The arterial pattern in this case was similar to that of angiodysplasia except for narrowing and irregularity of the vertebral artery.

AB-2275-75
Cerebellar Infarction. A Clinicopathological Study — Sypert GW (Neurological Surgery, University of Florida, JHM Health Center, Gainesville, Florida 32610), Alvord EC Jr — Arch Neurol 32:357-363 (June) 1975*

*Authors' abstract.

The clinical and pathological features of 28 fatal cases of acute uncomplicated massive cerebellar infarction are reviewed. Although infarcts may involve any portion of the cerebellum, they predominantly involve the posteroinferior half of one cerebellar hemisphere. The frequency of acute uncomplicated fatal cerebellar infarction is much greater than previously appreciated, approximating that of acute fatal cerebellar hemorrhage. All patients were past middle age. Atherosclerosis and acute vertebral artery occlusion were the most common etiological factors. The onset was sudden in most cases, with vomiting, dizziness, vertigo, and cerebellar dysfunction. All patients died with progressive brain stem dysfunction and medullary respiratory failure secondary to compression by a swollen cerebellum. Death usually occurred between the third and sixth days following the onset of symptoms, but only six to 30 hours after the onset of obtundation; therefore, decompressive therapy must be instituted promptly.

AB-2276-75
Acute Cerebellar Infarction in the PICA Territory — Duncan GW (Department of Neurology, Vanderbilt University School of Medicine, Nashville, Tennessee 37203), Parker SW, Fisher CM — Arch Neurol 32:364-368 (June) 1975*

Although old or recent infarcts of a cerebellar hemisphere in the territories of the posterior inferior (PICA), superior, or anterior inferior cerebellar arteries are commonplace autopsy findings, in no case have corresponding clinical symptoms been clearly identified. We have studied three cases, two clinicopathologically and one clinicosurgically, in which an acute infarct involving only the cerebellum lay in the PICA territory distal to the branches to the medulla oblongata. The clinical manifestations consisted of rotatory dizziness intensified by motion, nausea, vomiting, imbalance, and nystagmus.

In two cases, the clinical diagnosis had been a benign labyrinthine disorder. Recognition of a syndrome corresponding to cerebellar infarction in the PICA territory is important insofar as it assists in the differential diagnosis of dizziness. It becomes of crucial importance when cerebellar infarction is the prelude to cerebellar swelling and brain stem compression leading to coma and death unless surgically relieved.

AB-2277-75
Effects of Hypotension on Rhesus Monkeys — Gamache FW Jr, Myers RE (National Institute of Neurological Diseases and Stroke, NIH, Room 110, Auburn Building, Bethesda, Maryland 20014) — Arch Neurol 32:374-380 (June) 1975*

Twenty-one late-juvenile rhesus monkeys were rendered profoundly hypotensive for 0-, 15-, or 30-minute periods by means of infusion of trimethaphan camsylate. Blood pressure was then restored to prehypotensive levels with phenylephrine infusions. Respiratory gas tensions and pH of arterial blood were maintained within their normal limits throughout experimental and recovery periods.

Animals either recovered and showed no sequelae or died 12 to 48 hours later of cardiorespiratory difficulties, often accompanied by brain swelling. Brain injury and death occurred in 64% of cases when arterial blood pressure was maintained at 25 mm Hg for up to 30 minutes. Multifocal myoclonus, depressed electroencephalographic activity,
rises in cisternal cerebrospinal (CSF) pressure, respiratory depression, and characteristic changes in serum and cisternal CSF glucose followed episodes of controlled hypotension. Hypoxia and acidosis occurring during insult or recovery periods rather than hypotension itself probably account for neuropathological sequelae described by others.

**AB-2278-75**

**No-Flow State Following Cerebral Ischemia. Role of Increase in Potassium Concentration in Brain Interstitial Fluid** — Wade JG, Amtorp O, Sørensen SC (Institute of Medical Physiology, Department A, University of Copenhagen, Copenhagen, Denmark) — *Arch Neurol* 32:381-384 (June) 1975*

Rats were subjected to total cerebral ischemia by occluding outflow from the heart. In control experiments and following different periods of ischemia, potassium concentration was measured in cisternal cerebrospinal fluid (CSF). It rose to 19.4 mEq/liter following 16 minutes of ischemia.

Changes in cerebrovascular resistance (CVR) were also assessed by measuring the cerebral perfusion rate (CPR). Following two minutes of ischemia, CVR was decreased to half control value. After 8 and 16 minutes of ischemia, CVR was markedly increased, and "no-flow" state was approached after 16 minutes of ischemia. The CVR increased concomitantly with increase in potassium concentration in cisternal CSF. We suggest that the increase in CVR following cerebral ischemia is due to increase in potassium concentration in brain extracellular fluid and is part of a vicious circle that leads to brain death.

**AB-2279-75**

**Controlled Trial of Glycerol Versus Dexamethasone in the Treatment of Cerebral Oedema in Acute Cerebral Infarction** — Gilsanz V (Madrid Medical School, Cea Bermudez 61, Madrid 3, Spain), Rebollar JL, Buencuerpo J, Chantres MT — *Lancet* 1:1049-1051 (May 10) 1975*

Ten percent glycerol was given for six days to 30 patients who had had an acute ischemic cerebral infarction, and the results were compared with those obtained after treating 31 similar patients with dexamethasone (16 mg per 24 hours for six days). One patient treated with glycerol died of hemoglobinuria and acute renal failure. Six patients treated with dexamethasone died — three from cerebral edema and three from non-neurological complications (pulmonary embolism, myocardial infarction, and aspiration pneumonia). Improvement was significantly greater in the glycerol group after 8 and 15 days. No improvement was noted using either glycerol or dexamethasone in seven patients with spontaneous intracerebral hemorrhage.

**AB-2280-75**

**Randomised Clinical Trial of Strategies for Improving Medication Compliance in Primary Hypertension** — Sackett DL (Department of Clinical Epidemiology and Biostatistics, McMaster University Medical Centre, Hamilton, Ontario, Canada), Haynes RB, Gibson ES, Hackett RC, Taylor DW, Roberts RS, Johnson AL — *Lancet* 1:1205-1207 (May 31) 1975*

Two hundred and thirty Canadian steelworkers with hypertension took part in a randomized trial to see if compliance with antihypertensive drug regimens could be improved. For care and follow-up these men were randomly allocated to receive or not receive an educational program aimed at instructing them about hypertension and its treatment. Surprisingly, the convenience of follow-up at work had no effect upon these men's compliance with antihypertensive drug regimens. Similarly, although men receiving health education learned a lot about hypertension, they were not more likely to take their medicine.

**AB-2281-75**

**Internal Carotid Artery Supply to Temporal Bone Chemodectomas** — Jordan CE, Newton TH (Department of Radiology, University of California School of Medicine, San Francisco, California 94143) — *Neuroradiology* 8:253-257 (Mar 10) 1975*

Chemodectomas of the temporal bone usually derive their blood supply from branches of the external carotid artery. The authors report five patients in whom chemodectomas were supplied, in part, by branches of the internal carotid artery. One of these branches, the caroticotympanic artery, normally courses to the region of the middle ear. Chemodectomas that arise in the middle ear may therefore be fed partially or, on occasion, primarily by the caroticotympanic artery. For this reason selective injection of the internal carotid artery should be made in addition to selective injection of the external carotid artery in the evaluation of such tumors.

**AB-2282-75**

**Orbital Anastomoses of the Anterior Deep Temporal Artery** — Quisling RG, Seeger JF (Department of Radiology, Neuroradiology Section, University of Michigan Medical Center, Ann Arbor, Michigan 48104) — *Neuroradiology* 8:259-262 (Mar 10) 1975*

The anterior deep temporal artery may provide a major collateral pathway to the intracranial circulation through anastomoses with branches of the opthalmic artery. Review of carotid angiograms in 26 patients with internal carotid artery occlusive disease revealed anterior deep temporal to opthalmic artery anastomoses in 16 cases. This route of collateral blood flow was associated in most instances with occlusion of the cervical portion of the internal carotid artery. Three cases demonstrating the angiographic anatomy of the anterior deep temporal artery and its potential anastomoses with branches of the opthalmic artery are presented.

**AB-2283-75**

**Collateral Circulation Between the Internal and External Carotid Arteries After Occlusion of the External Carotid Artery** — Ciba K (Neurochirurgische Universitätsklinik Im Neuenheimer Feld, D-6900 Heidelberg I, FR Germany), Kröger M — *Neuroradiology* 8:289-294 (Mar 10) 1975*

Four cases of stenosis or occlusion of the external carotid artery, due to various etiology, are reported and the resulting collateral circulation demonstrated. This consists principally of connections through the lateral main stem artery of Schnürer and Statin (inferior cavernous sinus

*Authors’ abstract.*
artery of Parkinson) which originates from the horizontal segment of the carotid siphon to the maxillary artery.

AB-2284-75
Regional Cerebral Blood Flow in Patients With Chronic Subdural Hematomas — Brodersen P (Department of Neurosurgery, Neurology and Clinical Physiology, Bispebjerg Hospital, Copenhagen, Denmark), Gjerris F — Acta Neurol Scand 51:233-239, 1975

Cerebral blood flow (CBF) was measured by the interarterial 133Xenon method in seven patients, aged 55 to 76 years, with chronic subdural hematomas. Before operation, CBF was reduced to an average of 31 ml/100 gm/min, range 24 to 38 ml/100 gm/min. One to three weeks after operation, when all had improved, CBF averaged 38 ml/100 gm/min, range 34 to 43 ml/100 gm/min. The reduction of CBF was probably secondary to a reduced metabolic demand. Clinical improvement continued for months after operation.

AB-2285-75
Bilateral Internal Carotid Artery Thrombosis. Prognosis and Risk Factors — Waltimo O (Department of Neurology, University of Helsinki, Haartmaninkatu 4, Helsinki 29, Finland), Fogelholm R — Acta Neurol Scand 51:240-244, 1975

Fourteen patients with bilateral internal carotid artery thrombosis were analyzed with respect to long-term prognosis and the prevalence of risk factors of cerebrovascular disease. The patients comprised 7% of all patients with internal carotid thrombosis treated in 1966-1973 at the Department of Neurology, University of Helsinki. During the follow-up period of 3 to 86 months (median 50 months) five patients died, three during the first, and two during the second year of follow-up. Of the surviving patients: two needed institutionalization; three were able to take care of themselves; and four who were virtually symptom-free were able to work. The risk factors of cerebrovascular disease were analyzed: 91% were cigarette smokers; 70% had serum triglycerides of 140 mg/100 ml or higher; and 62% had cholesterol values of 280 mg/100 ml or higher. Fasting glucose values higher than 95 mg/100 ml, and ECG abnormalities were encountered in every third, and obesity and hypertension in every fourth patient. Cigarette smoking and high triglycerides were more prevalent than in the general population. No association between the number of risk factors in the individual patients and the prognosis could be found.

AB-2286-75
The Effect of Dantrium® on Spasticity in Hemiplegic Patients — Jonsson B (Department of Anatomy, University of Umeå, 901 87 Umeå, Sweden), Ladd H, Afzelius-Brodersen P (Department of Neurosurgery, Neurology and Clinical Physiology, Bispebjerg Hospital, Copenhagen, Denmark), Gjerris F — Acta Neurol Scand 51:385-392, 1975

The effect of a new peripherally acting muscle relaxant drug, Dantrium®, on spasticity was tested on 11 hemiplegic patients. The effect was evaluated both with regular clinical examination and with electromyographic technique. The latter concerned a quantitative analysis of the patients' voluntary control of fine neuromuscular activity both with and without the drug. The results indicated that spasticity was initially markedly reduced in the majority of the patients without, however, meaningfully increasing the daily-living functions of the patients. After a few months, the medication could be discontinued without any immediate increase in the spasticity. No severe side-effects were noted. In some cases, the medication had to be discontinued due to marked tiredness. Electromyographically, it was found that the ability of the patients to control fine neuromuscular activity with the paretic muscles was increased significantly with Dantrium, indicating that the reduction of the spasticity increased the ability for fine control of the muscles.

AB-2287-75
Anticoagulants in Cerebrovascular Disease. A Critical Review of Studies — Cervantes FD, Schneiderman LJ (University of California at San Diego School of Medicine, Box 109, S-004, La Jolla, California 92037) — Arch Int Med 135:875-877 (June) 1975

Anticoagulant therapy in the treatment of cerebral thromboembolism remains controversial despite 20 years of statistical studies. Among the unresolved questions are (1) the relative value of aspirin versus coumarin derivatives for long-term therapy; (2) the relative benefits of long-term therapy versus short-term therapy; (3) the complications of anticoagulant therapy versus their therapeutic benefits; and (4) the optimal therapy of the various types of cerebral thromboembolic events, e.g., transient ischemic attacks, strokes in evolution, and completed strokes.

Much of this controversy derives from the same problems that have plagued the question of anticoagulation for acute myocardial infarction, namely that "the existing statistics were obtained without adequate attention to fundamental principles of clinical science." We have examined the available clinical studies bearing on this issue and are reporting our analysis of these studies.

AB-2288-75
Improvement of Physical Function After Stroke: Surgical and Orthotic Management — Waters R (Department of Orthopedic Surgery, Rancho Los Amigos Hospital, Downey, California 90242), Rhoades M, Montgomery J — J Amer Geriat Soc 23:248-253 (June) 1975

Initial and subsequent programs for the orthotic and surgical management of the post-stroke patient are outlined, particularly with regard to impairment of the lower extremities in hemiplegic patients. New developments in functional electrical stimulation are described.

AB-2289-75

The ultrastructure of calcareous deposits in a case of Sturge-Weber disease is described. Concrements were found mainly extracellularly, outside of blood vessels, but some were also within the vessel walls. The laminated concrements are built up of fine filaments, similar to those seen in Fahr's disease. Needle-like crystals (calcium apatit) were observed within the concrements. Increased permeability of
the altered vessel walls may be responsible for these alterations.

AB-2290-75


A prospective brain scanning study using technetium 99m pertechnetate was performed in 84 patients with cerebral infarction. No correlation was found between vascular angiographic findings and the frequency of positive scans. A comparison with clinical motor and mental evaluation showed a good correlation between abnormal scans (58%) and poor initial test results. A half-life of 17 days characterized the time course of positive scans according to their density and abnormal radioisotopic uptake area.

AB-2291-75

Mononeuropathology Multiplex as a Complication of Amphetamine Angitis — Stafford CR, Bogdanoff BM (Department of Neurology, Crozer-Chester Medical Center, Chester, Pennsylvania 19103), Green L, Spector HB — Neurology 25:570-572 (June) 1975

A patient who abused multiple drugs developed a rapidly progressive mononeuropathy multiplex, which appeared to respond to corticosteroid therapy with partial resolution. Intravenous methamphetamine had been used almost exclusively from the fourth month prior to the onset of symptoms. Biopsy material revealed a necrotizing angitis involving medium-sized and small-sized arteries, capillaries, and venules, typical of a hypersensitivity-type angiopathy, rather than the previously reported polyarteritis nodosa-type lesions secondary to illicit drugs. The apparent response to corticosteroids suggests that these agents might be useful in the treatment of some complications of drug abuse.

AB-2292-75

Bilateral Dissecting Aneurysms of the Intracranial Internal Carotid Arteries in an 8-Year-Old Boy — Chang V, Newcastle NB (Banting Institute, Toronto, Ontario MSG 1L5; Canada), Harwood-Nash DCF, Norman MG — Neurology 25:573-579 (June) 1975

Nontraumatic intracranial dissecting aneurysms have rarely been reported as the cause of acute infarctile and childhood hemiplegia. The present case is unique because dissecting aneurysms occurred bilaterally in two clinically distinct episodes. A recent dissecting aneurysm of the right intracranial internal carotid artery was present with a healed dissecting aneurysm of the left internal carotid artery in an eight-year-old boy.

AB-2293-75


This is a report of 54 cases of saccular aneurysms operated upon intracranially with a total operative mortality of 7.4%, poor results in four cases (7.4%) and excellent results in 46 cases (85.1%). For 53 supratentorial aneurysms, the operative mortality was 5.6%, with two operative deaths (4.8%) in the last 41 cases. Intermittent vascular occlusion with a newly developed special forceps and the use of moderate arterial hypotension were of value in dealing with these aneurysms.

AB-2294-75

Experimental Cerebral Vasospasm in Cats: Modification by a New Synthetic Vasodilator YC-93 — Handa J (Department of Neurosurgery, Kyoto University Hospital, Kyoto, Japan), Yoneda S, Koyama T, Matsuda M, Handa H — Surg Neurol 3:195-199 (Apr) 1975

Effects of a new synthetic vasodilator, YC-93, a derivative of 1,4-dihydropyridine, on experimental cerebral vaso- spasm, were studied in cats. A topical administration of YC-93 solution was found to rapidly reverse the spasm of the basilar artery induced with a subarachnoid application of fresh blood, serotonin or prostaglandin F2alpha. Pretreatment of the basilar artery with YC-93 prevented the development of experimental vasospasm with all these agents.

AB-2295-75

The Relief of Intracranial Vasospasm: An Experimental Study With Methylprednisolone and Cortisol — Fox JL (Division of Neurosurgery, West Virginia University Medical Center, Morgantown, West Virginia 26506), Yasargil MG — Surg Neurol 3:214-218 (Apr) 1975

The effects of topically applied soluble glucocorticosteroids (methylprednisolone and cortisol) were investigated by observation through the microscope to determine their effect on the canine basilar artery and the canine and monkey arterial circle of Willis made spastic by puncture or by topical barium chloride, prostaglandin (F2alpha), or serotonin. The steroids were tested without their normal diluent; the diluent was tested separately. Marked vasodilatory effects of the major arteries and the smallest visible arteries were found with both of these steroids. Moderate vasodilatory effects also were found with the diluent alone. In addition methylprednisolone was injected into the vertebral artery (40 mg) and intravenously (10 mg per kilogram); vasodilation beyond that seen in the absence of drug injection was not observed. In monkeys whose circle of Willis was made spastic by arterial puncture, severe spasm persisted at 24 and 72 hours. If the puncture was followed by topical application of 10 mg of 4% methylprednisolone acetate, spasm was not seen at 24 or 72 hours.

AB-2296-75

Occlusion of Carotid-Cavernous Fistula With a Balloon Catheter — Bahuleyan K, Nelson LR (Division of Neurosurgery, Albany Medical College, Albany, New York 12208), Peck FC Jr — Surg Neurol 3:283-287 (June) 1975

Occlusion of a carotid-cavernous fistula with a balloon catheter appears to be easier and perhaps safer than the widely used trapping procedure. Two cases successfully treated using this technique are reported along with a discussion of the advantages, disadvantages, and possible future improvements in technique.
ABSTRACTS

**AB-2297-75**

Quantitative In Vitro Vasoactivity of 5-Hydroxytryptamine on the Human Basilar Artery — Yashon D (Division of Neurological Surgery, Ohio State University College of Medicine, Columbus, Ohio 43210), Blocker D, Brown RJ, Hunt WE — *Surg Neurol* 3:295-300 (June) 1975

The importance of autacoidal substances in the genesis of cerebral vascular constriction and spasm is an unresolved issue. Comparative vasoactivity of 5-hydroxytryptamine (5HT) and norepinephrine (NE) on the human basilar artery was quantitatively assessed in vitro. 5HT was decidedly more vasoactive in this preparation. Three patterns of vasoactivity were noted with 5HT. Type I was an immediate sustained increase in tension lasting more than 30 minutes. Average increase in tension was 2,988 mg (range 120 to 8,600). Type II consisted of a sharp immediate increase in tension to average 1,555 mg (range 240 to 4,500) followed by gradual dissipation to baseline levels within 15 minutes. Type III pattern was a lesser immediate increase (372 mg; range 100 to 850) and more rapid dissipation over ten minutes. NE-induced Type I and Type III activity was present in only six of 20 segments. This study demonstrates that 5HT is vasoactive in human cerebral arteries. Type I sustained contractions may possibly be implicated in spasm. It is hypothesized that such autacoid-induced contraction may contribute to vascular wall ischemia, necrosis, and irreversible constriction as seen in human vasospasm.

**AB-2298-75**

Cardiovascular Changes With Acute Subdural Hematoma — VanderArk GD (Division of Neurosurgery, Denver General Hospital, Denver, Colorado 80204) — *Surg Neurol* 3:305-308 (June) 1975

Of 100 consecutive patients with acute subdural hematoma, 53 survived. Blood pressure and heart rate changes were not reliable indicators of increased intracranial pressure or cerebral disaster. Electrocardiographic changes in these patients were dramatic. Forty-one patients developed a new cardiac arrhythmia. Increased intracranial pressure and brain lesions adversely affect the heart. These effects must be recognized and appropriately treated.

**AB-2299-75**

Meckel's Cave Meningiomas With Subarachnoid Hemorrhage — Rosenberg GA, Herz DA (Department of Neurological Surgery, Albert Einstein College of Medicine, Bronx, New York 10461), Leeds N, Strully K — *Surg Neurol* 3:333-336 (June) 1975

Two patients with Meckel's Cave meningiomas were initially hospitalized as a result of subarachnoid hemorrhage. Four-vessel angiography was necessary to exclude other causes of bleeding while demonstrating these lesions. Apoplectic presentation in both cases led to early diagnosis and successful surgical therapy. A review of the literature reveals subarachnoid hemorrhage to be a rarity in association with meningiomas. The two patients currently reported are believed to be the only examples on record of hemorrhagic meningiomas arising from the region of Meckel's Cave.

**AB-2300-75**

Transient Postoperative Occlusion of the Superficial Temporal-Middle Cerebral Artery Branch Anastomoses: Spasm, Swelling, or Thrombosis — Khodadad G (Veterans Administration Hospital, Cincinnati, Ohio 45220) — *Surg Neurol* 3:341-345 (June) 1975

Ten superficial temporal-middle cerebral artery branch anastomoses were followed by postoperative angiograms. The early angiograms revealed patent anastomosis in six patients. In two patients the superficial temporal artery was severely narrowed and tapered and the cerebral arteries were not visualized. In one the superficial temporal artery was not significantly narrowed but was only patent extracranially. In the remaining patient, the superficial temporal artery was occluded. The late angiograms showed the patency of the six originally patent anastomoses, and also complete patency of the three anastomoses in which the cerebral arteries were not visualized.

**AB-2301-75**

Retinal Periarteritis Secondary to Syphilis — Crouch ER Jr, Goldberg MF (Department of Ophthalmology, University of Illinois Eye and Ear Infirmary, Chicago, Illinois 60612) — *Arch Ophthalmol* 93:384-387 (May) 1975

A 43-year-old black woman showed ophthalmoscopic evidence of retinal arteriolitis two weeks after being treated for uniocular panuveitis. Angiographic examination suggested that these deposits were not intraluminal or endothelial atherosclerotic emboli or plaques, but were deposits in the outer walls of retinal arterioles. Sequential ophthalmoscopic and angiographic examinations at one-month intervals for 12 months showed no progression or change in location of these deposits. Results of clinical and laboratory investigations suggested the diagnosis of syphilis. We believe it is rare for syphilitic infection to be implicated in the diagnosis of isolated retinal arteriolitis without periphlebitis.

**AB-2302-75**

Discrepancies Between Arterial Recanalization and Clinical Improvement in Cerebral Infarction — Irino T (Division of Cerebrovascular Diseases, Hanwa Hospital, Osaka, Japan), Taneda M, Minami T — *Brain and Nerve* 27:303-308 (Mar) 1975

A comparative study of clinical observation with angiographic inspection was performed in 13 patients with major cerebral arterial occlusion. These cases included seven middle and six internal carotid arterial occlusions, and were diagnosed following physical and angiographical findings within 24 hours of the stroke. Six were diagnosed as cerebral thrombosis due to arteriosclerosis and seven were suspected as having cerebral embolism associated with atrial fibrillation. A fibrinolytic agent (Urokinase) was used in eight cases.

The first angiogram was done within 24 hours of acute onset, and the second after three days or/and seven days of the stroke to ascertain whether recanalization of the occluded artery occurred or not. Clinical observation was based on three clinical points: consciousness, muscle strength and aphasia. Consequently, three internal and four middle cerebral arterial occlusions were demonstrated to be recanalized angiographically within seven days of stroke. Not all of the
cases with recanalization received fibrinolytic therapy. These seven cases showed no clinical improvement in spite of their angiographical restoration to normal circulation. Among the remaining six cases without recanalization, two returned to normal social life after two months of stroke.

Thus from the data mentioned above, it can be seen apparently that recanalization therapy has no sufficient clinical effect in acute apoplectic patients suffering from cerebral infarction.

AB-2303-75

The clinical and morphological effects of a nonoperatively corrected, traumatic carotid-jugular fistula are reported and discussed. As a result of a neck injury the patient, 58 at time of death, developed a traumatic aneurysm of the common carotid artery with signs and symptoms of stasis of the neck and facial regions, an etiologically unexplained visual defect on the contralateral side of the fistula, and finally, cerebral complications which caused death. Neuropathological investigation showed that the long-standing hemodynamic peculiarities of the shunt had led to a severe ectasia of the cerebral vasculature and of the contralateral internal carotid artery. This was accompanied by chronically recurrent blood-brain barrier disturbances, edema, and the beginnings of tissue damage. In addition, the ectasia of the contralateral carotid had led to a pressure atrophy of the adjacent optic nerve. Apart from the often described effects of an A-V shunt on the cardiovascular system, an additional cerebral complication is described here and verified patho-anatomically.

AB-2304-75
The Effect of Oral Contraceptive Estrogen on Blood Coagulation and Fibrinolysis — Hedlin AM (Department of Physiology, University of Toronto, Toronto, Ontario, Canada) — Thromb Diath Haemorrh 33:370-378, 1975

The changes in fibrinogen, antithrombin activity, spontaneous fibrinolytic activity, plasminogen and fibrinogen degradation products were studied in women, aged 18 to 30 years, who were using oral contraceptive preparations. Blood samples were obtained before use, as well as during the first month and again after several months of use. The results were divided into three groups based on the anticoagulatory activity of the estrogen component of the oral contraceptive, i.e., Mestranol, 50 μg; Mestranol, 80 μg, or Ethinyl estradiol, 50 μg; and Mestranol, 100 μg. In each of the three groups there was a similar pattern of increase in spontaneous fibrinolytic activity and plasminogen but decrease in antithrombin levels during the monthly cycles. The fibrinogen level was increased in the first month of oral contraceptive use in the three groups but after several months of use the pattern of change seen in the first month was repeated with the lower estrogen compounds, but in the group using the preparation with 100 μg Mestranol, the fibrinogen level returned to that of the control month. The level of fibrinogen degradation products remained unchanged.

AB-2305-75
Unilateral Nerve Deafness in Childhood: A Possible Vascular Etiology — Snead OC III (Department of Pediatric Neurology, Yale University School of Medicine, New Haven, Connecticut 06510), Kier E L, Hutenlocher PR — Develop Med Child Neonol 17:84-88 (Feb) 1975

An eight-year-old girl was found to have unilateral hearing loss three months after an episode of influenza. She also had mild left facial weakness. Her tympanic membranes were normal. A skull x-ray revealed a widened internal auditory canal on the side of the decreased hearing, and a pneumoencephalogram revealed an atrophic eighth cranial nerve and pons on the involved side. A left vertebral angiogram failed to fill the left anterior inferior cerebellar artery (AICA). The authors consider the combination of the atrophy of the pons and eighth nerve with the non-filling of the AICA as evidence supporting a diagnosis of a vascular lesion resulting in the patient’s hearing loss. Previous reports of possible vascular lesions causing hearing loss are discussed.

AB-2306-75
Hyperlipoproteinemia in Occlusive Cerebrovascular Disease — Mathew NT (Department of Neurology, Baylor College of Medicine, Houston, Texas 77025), Davis D, Meyer JS, Chandar K — JAMA 232:262-266 (Apr 21) 1975

A series of patients who were hospitalized for symptoms or signs of transient ischemic attacks, reversible ischemic neurological disorders, or completed strokes caused by atherothrombotic cerebrovascular disease (excluding cases of subarachnoid hemorrhage, hypertensive intracerebral hemorrhage, and emboli of cardiac origin) was evaluated by four-vessel cerebral angiography and a series of tests to detect hyperlipoproteinemia. Of the total 163 selected patients, 31.8% had hyperlipoproteinemia, whereas 51% of the 42 patients with extracranial (carotid or vertebral) arterial lesions and 44.2% of the 18 patients with intracranial major vessel lesions had some form of hyperlipoproteinemia, type IV being the most common. The 44 patients with intracranial small-vessel lesions had the lowest incidence (14.2%) of hyperlipoproteinemia.

AB-2307-75
Syncopal Attacks as Symptom of Severe Coronary Artery Disease — Irving JB (Department of Cardiology, Royal Infirmary, Edinburgh EH3 9YW, England), Kitchin AH — Brit Med J 1:555-556 (Mar 8) 1975

Two relatively young men (53 and 39) presented with angina pectoris of recent onset associated with syncopal spells. Examination soon after an attack revealed that each man had a low blood pressure and a reduced pulse pressure. Each patient had angiographical evidence of marked stenosis of the proximal left coronary artery. The authors suggest that the syncopal attacks are likely related to episodes of marked bradycardia. Low cardiac output resulting from ischemic heart failure is also a suggested mechanism.

AB-2308-75
On the Relationship of Brain Vasculature to Production of Neurological Deficit and Morphological
ABSTRACTS

Changes Following Acute Unilateral Common Carotid Artery Ligation in Gerbils — Berry K, Wiśniewski HM (Department of Pathology [Neuropathology], Albert Einstein College of Medicine, Bronx, New York, New York 10461), Svarzbein L, Baez S — J Neurol Sci 25:75-92 (May) 1975

Acute ligation of the left common carotid artery in the neck of each of 34 adult Mongolian gerbils resulted in death for seven in less than seven hours, death for four others between 12 and 27 hours, and only minor or transient neurological deficits in the remaining 23. As previously reported, all the gerbils had no anastomoses between the anterior and posterior cerebral arterial blood supply. However, in this study the surviving animals (killed from four to seven days after the ligation) consistently displayed connections between the anterior cerebral arteries in contrast to the 11 gerbils which died. Histopathological changes are described. Perivascular brain edema was observed as early as three and one-half hours after the ligation procedure. The authors conclude that the degree of anterior cerebral anastomosis determines the fate of a gerbil who undergoes acute carotid artery occlusion.

Effect of Experimental Cerebral Infarction in Rat Brain on Catecholamines and Behaviour — Robinson RG (Laboratory of Neuropharmacology, National Institute of Mental Health, St. Elizabeth's Hospital, Washington, D.C. 20032), Shoemaker WJ, Schlumpf M, Valk T, Bloom FE — Nature 255:332-334 (May 22) 1975

After the right middle cerebral artery was sutured in each of 30 rats, behavioral patterns were monitored for up to 40 days. Concentrations of noradrenaline (NA) and dopamine (DA) were determined in various regions of the brain and brainstem at five days, 20 days, and 40 days after the ligation. Sham-operated rats were used as controls. Some of the findings included maximal decrease of NA in the cortex and contralateral brainstem of the rats killed five days after surgery, with nearly normal levels in those killed after 20 or 40 days, whereas NA levels remained 30% lower than normal in the ipsilateral brainstem up to 40 days. Behavioral changes were apparent also. The authors speculate that damage to catecholamine neurons in humans after strokes may be responsible for the emotional changes, e.g., endogenous depression, often seen in such patients.

Aneurysms Following Endarterectomy Associated With Patch Graft Angioplasty — Hejhal L (Research Centre for Cardiovascular Diseases, Institute for Clinical and Experimental Medicine, Praha, Czechoslovakia), Hejnal J, Firt P, Taborsky J, Belan A — J Cardiovasc Surg 15:620-624, 1974

Review of 105 patients from one to nine years (mean of four and one-half years) after endarterectomy of various vessels, including carotid, iliac, and subclavian arteries, revealed a much higher incidence of postoperative aneurysms at the surgical site in those in whom patch graft angioplasty was performed. Only one aneurysm in 61 cases occurred after simple endarterectomy, compared to 17 of 44 cases in which patch graft angioplasty also was performed. The biophysical dynamics of arterial blood flow are discussed to elucidate possible causes for the striking differences in the two groups. With modern suture material and surgical techniques, the authors feel that longitudinal arteriotomies of even small vessels are now possible without the need for patch graft angioplasty.

Posterior Fossa Hemorrhage. Localization by Computerized Tomography — Pressman BD (Department of Radiology, George Washington University Medical Center, Washington, D.C. 20037), Kirkwood JR, Davis DO — JAMA 232:932-933 (June 2) 1975

A case history of a patient with a pontine hemorrhage is presented to illustrate the usefulness of computerized axial tomography, a noninvasive technique, to distinguish brain stem hemorrhage from the potentially surgically treatable cerebellar hemorrhage.

Management of Heparin Therapy. Controlled Prospective Trial — Salzman EW (Beth Israel Hospital, Boston, Massachusetts 02215), Deykin D, Shapiro RM, Rosenberg R — New Eng J Med 292:1046-1050 (May 15) 1975

A prospective study of 100 patients who received therapeutic doses of heparin administered intermittently revealed that 21 had a major bleeding episode and 16 a minor one. A subsequent prospective study compared patients who received heparin intermittently with those who received it continuously via an infusion pump. Recurrent thromboembolism occurred only once in each group, whereas major bleeding occurred seven times more frequently in the group on intermittent dosages. Also the continuous-infusion group required one-fourth less heparin in order to keep the partial thromboplastin time in therapeutic range. The authors conclude that administration of heparin continuously via an infusion pump is as effective for prevention of thromboembolism and safer with respect to bleeding complication than intermittent injection of the drug.


The dura was opened and the dorsal aspect of the spinal cord of each of 15 dogs was covered by intact omentum brought out through a lateral abdominal incision. The dogs were killed from four hours to six months after the procedure, and vascular anastomoses were detected by the injection of India ink mixed with neoprene latex into an omental artery. Although all of the dogs demonstrated some evidence of India ink in both the meninges and the parenchyma of their spinal cords, those killed within less than 72 hours of the operation showed relatively small concentrations of the marker material.

The Spectrum of Cerebrovascular Occlusive Disease Suitable for Microvascular Bypass Surgery — Chater N (Microsurgical Unit, Ralph K. Davies Medical Center, San Francisco, California 94114), Spetzler R, Mani J — Angiology 26:235-251 (Mar) 1975

Neuromicrovascular anastomosis of a superficial tem-
poral artery to a branch of a middle cerebral artery seems to be useful in several clinical situations of cerebrovascular occlusive disease which is inaccessible to conventional vascular surgical techniques. Several cases are presented illustrating such situations, e.g., patients with unilateral internal carotid artery occlusion presenting with transient ischemic attacks (TIA), with or without mild neurological deficit; those with unilateral internal carotid occlusion with significant neurological deficit; patients with bilateral internal carotid occlusions presenting with TIAs; those with middle cerebral artery stenosis or occlusion presenting with TIAs; and those with internal carotid siphon stenosis presenting with TIAs. The authors conclude that although this surgical technique appears promising, not enough cases have yet been followed to statistically demonstrate that the procedure decreases the number of TIAs, completed strokes, or in other ways modifies the subsequent course of the disease.

**AB-2315-75**


Blood pressure testing, done at a New York City vocational high school, revealed 110 of 1,863 students (5.9%) to have diastolic pressures of 90 mm Hg or more and/or systolic pressures of 140 mm Hg on initial screening, confirmed by a second examiner immediately, and a third examiner a week or more later. The student body of the school was predominantly black and female, but the distribution of the blood pressures was similar to previous adult surveys, viz., higher blood pressures were found in adolescent males than in females and in blacks than in whites. Socioeconomic status did not seem to be a factor. The older students (aged 16 to 20 years) more frequently had elevated blood pressures than the younger group. The authors point out that blood pressure data for young people are scant, so that definitions of normalcy for this age group are not well established.

**ITEMS OF INTEREST**

**Annual Review: Neuro-ophthalmology** — Lessell S (Department of Ophthalmology and Neurology, Boston University School of Medicine, Boston, Massachusetts 02118) — *Arch Ophthal* 93:434-464 (June) 1975

**Strokes in Migraine: Report on Seven Strokes Associated With Severe Migraine Attacks** — Boisen E (Department of Neurology, City Hospital, Copenhagen, Denmark) — *Dan Med Bull* 22:100-106, 1975

**Familial Hemiplegic Migraine** — Glista GG, Mellinger JF, Rokee ED (Department of Neurology, Mayo Clinic, Rochester, Minnesota 55901) — *Mayo Clin Proc* 50:307-311 (June) 1975

Ischemic optic neuritis, several interesting reviews:

**Anterior Ischaemic Optic Neuropathy. 1. Terminology and Pathogenesis** — Hayreh SS (Department of Ophthalmology, University of Iowa Hospitals, Iowa City, Iowa 52242) — *Brit J Ophthal* 58:955-963 (Dec) 1974

**Anterior Ischaemic Optic Neuropathy. 2. Fundus on Ophthalmoscopy and Fluorescein Angiography** — Hayreh SS (Department of Ophthalmology, University of Iowa Hospitals, Iowa City, Iowa 52242) — *Brit J Ophthal* 58:964-980 (Dec) 1974

**Anterior Ischaemic Optic Neuropathy. 3. Treatment, Prophylaxis, and Differential Diagnosis** — Hayreh SS (Department of Ophthalmology, University of Iowa Hospitals, Iowa City, Iowa 52242) — *Brit J Ophthal* 58:981-989 (Dec) 1974


**Review: Complications of Heparin Therapy** — Gervin AS (Division of Surgery, Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D.C.) — *Surg Gynec Obstet* 140:789-796 (May) 1975

**Case Report: Spontaneous Spinal Epidural Hematoma During Pregnancy** — Yonekawa Y (Department of Neurosurgery, University of Zurich, Zurich, Switzerland), Mehdorn HM, Nishikawa M — *Surg Neurol* 3:327-328 (June) 1975

**Practical Review: Communication for the Aphasic Stroke Patient: Assessment and Therapy** — Harrington R (1695 West Crescent Avenue, Anaheim, California 92801) — *J Amer Geriat Soc* 23:254-257 (June) 1975
Abstracts

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