Medical Treatment of Trigeminal Neuralgia

SEVERE PAROXYSMAL FACIAL pain restricted to the distribution of one or two devisions of one trigeminal nerve can be controlled in most patients by carbamazepine (Tegretol®, Geigy), 200 to 1200 mg daily. Other facial pains, aside from the rare case of glossopharyngeal neuralgia, are not helped by this drug. Because of rare adverse effects, including bone marrow depression and altered liver and renal function, patients receiving carbamazepine must be followed closely and appropriate laboratory studies performed periodically. Since patients with trigeminal neuralgia frequently experience spontaneous remissions, attempts to discontinue the drug should be made every few months. When carbamazepine alone is ineffective, the addition of diphenylhydantoin, 200 to 400 mg daily, may be helpful. Since carbamazepine has been available, very few patients with trigeminal neuralgia require surgical treatment.

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Current Areas of Investigation on the Medical Management of Stroke

MEDICAL MANAGEMENT OF STROKES is currently aimed at the unresolved problems of (1) reducing cerebral edema, (2) increasing cerebral blood flow (CBF), and (3) reducing platelet agglutination. Reports on the use of dexamethasone aimed at reducing cerebral edema following a stroke indicate a mild beneficial effect on the neurological status, but further controlled studies are required for proper assessment.

Increasing CBF to ischemic areas adjacent a cerebral infarct with various vasodilators and with blood pressure control remains highly controversial. Although complex and sophisticated brain scanning techniques quantitating regional CBF yield conflicting information, continued investigations should clarify these issues.

Reduction of platelet agglutination by inhibiting its release of adenosine diphosphate (ADP) with acetylated salicylic acid (ASA) or dipyridamole is a potentially effective means of treating transient ischemic attacks (TIA). Preliminary clinical studies supported by basic research on platelet physiology indicate a central role played by platelets in TIA and arterial thrombosis. Current extension of these investigations will shed important light on this critical problem.

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Cervical Spondylosis—The Overlooked Cause of Impaired Gait

CERVICAL SPONDYLOSIS is a degenerative disease of the cervical intervertebral discs which results in injury to surrounding structures and which may *not* always be diagnosed by plain cervical spine films. There is often progressive myelopathy, with no significant cervical or brachial pain, which presents as a progressive gait disturbance. This is generally due to corticospinal tract disease but it is sometimes the result of proprioceptive tract involvement at a time when there is little evidence of motor tract involvement. Although the spinal cord compression is classically demonstrated and localized by myelography, it is possible to screen for a partial or complete block by performing lumbar CFS manometrics with a sensitive strain gauge transducer which may show abnormalities not seen with classical open-tube manometry.

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Muscle Biopsy in the Diagnosis of Neuromuscular Disease

MUSCLE BIOPSIES HAVE become increasingly helpful in the clinical evaluation of the patient with neuromuscular disease. Careful muscle biopsy is especially indicated in the "floppy child" syndrome. One or preferably two separate muscles

50 percent weakened should be chosen. Care should be taken to avoid sampling a muscle previously needled or one into which anesthetic has been injected. Contraction artifact can be avoided by the use of an isometric clamp. Routine fixation and stains suffice in most patients but in complicated cases histochemistry on fresh frozen tissue and electron microscopy may be necessary. Denervating diseases produce fascicles of atrophic fibers while myopathies result in scattered necrotic fibers of varying size with increased connective tissue and fat. Inflammatory changes are characteristic of the polymyositis syndrome. Since biopsies are rarely pathognomonic for specific entities (including muscular dystrophy) the information obtained must be correlated with clinical aspects, electromyography, and serum enzymes.

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Pearson CM, Coleman RF, Fowler WM, et al: Skeletal muscle—Basic aspects and illustrative new diseases. Ann Intern Med 67:614-650, Sep 1967

Usefulness of Brain Scanning

THE BRAIN SCAN has become a clinically valuable diagnostic procedure in the evaluation of a variety of neurologic disorders including brain tumor, abscess, AV malformation, cerebral infarction, subdural hematoma, intracerebral hemorrhage and others. The technique is readily available in most communities and can be performed on an outpatient basis or on severely debilitated patients. The overall diagnostic accuracy of the brain scan compares favorably with other diagnostic procedures such as cerebral arteriography and pneumoencephalography-ventriculography. The primary advantage of brain scanning is that it is a non-invasive technique which can be repeated as required. Although the brain scan is incapable of accurately differentiating between various pathological lesions, the location and approximate size and shape of the lesion may be determined. In addition to obtaining the required four standard views of the head at the appropriate time (usually 1 to 3 hours after injection) many nuclear medicine laboratories record the distribution of the tracer immediately after its injection and during its circulation through the cerebral vessels at 3-second intervals for approximately 20 seconds. This technique can, in some instances, suggest gross alterations in the circulatory dynamics such as in cerebral vascular occlusions and AV malformations.

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Electrodiagnostic Studies in Neuromuscular Disease

NEEDLE ELECTROMYOGRAPHY (EMG) and nerve conduction velocity tests are currently the most useful and popular of the electrodiagnostic studies. Electromyography—by means of a recording needle inserted into the muscle, with an amplifier and oscillographic and loudspeaker displays—provides data concerning the electrical activity of resting and contracting muscle fibers. Interpretation of this data allows differentiation of disorders involving the lower motor neuron from myopathic disorders. Further division of lower motor neuron disorders into those involving the anterior horn cell proper and those affecting the peripheral nerves is often possible, especially when nerve conduction velocities are also determined. Electrodiagnostic studies are particularly helpful in the evaluation of neuromuscular disease in infants and children and in adults with chronic anterior horn cell disease. Electrodiagnostic findings alone are rarely diagnostic of a specific entity and thus should always be correlated with clinical findings and other appropriate laboratory studies.

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Detection of the Muscular Dystrophy Carrier

WHEN FAMILIAL, DUCHENNE muscular dystrophy is inherited in an x-linked recessive manner, with only males being affected. To prevent additional dystrophic male offspring, early detection of carriers is mandatory. The female carrier, even though clinically normal, has a small proportion