

medical sciences

Gathered at the meeting of the American Association of Neurological Surgeons last week in Washington, D.C.

BRAIN TUMORS

Racial discrepancy

Brain tumors have been considered rare in Negroes, but documentation to confirm this has been inadequate. In an attempt to supply more information, Dr. Charles Mosee and Jesse B. Barber of Washington, D.C., reviewed with Dr. Kenneth M. Earle, chief of the department of neuropathology at the Armed Forces Institute of Pathology, the 10,156 brain tumors on file at the institute, and found that blacks do have fewer primary brain tumors than whites.

In the study, the majority of tumors occurred among civilians: The figures were 8,419 civilians and 1,737 members of the armed forces. Of the total, 4,605 were primary tumors in white patients and 304 in blacks. The incidence of tumors in blacks should have been 10.9 percent rather than six percent if there were no difference in the occurrence rates.

LUMBAR DISK SURGERY

Epidural anesthesia

Two Roanoke, Va. physicians reported success in use of epidural anesthesia during the removal of the lumbar disk in 3,427 patients. The technique has advantages over both general anesthesia and the usual spinal anesthesia, say Drs. William P. Tice and John D. Varner.

The technique involves injection of 20 to 25 cubic centimeters of Xylocaine in the lumbar epidural space. The dura is the material covering the brain and spinal cord.

In the series of operations, there was only one death, which was attributed by a pathologist to a drug reaction.

The two physicians say advantages of the method include minimized risk of neurological complications, elimination of postoperative headache as sometimes occurs after spinal anesthesia, elimination of postoperative urinary retention and reduction of blood pressure drop.

ANEURYSMS

Through chest to brain

An aneurysm, in which the walls of blood vessels in the brain become thin and balloon out, can cause serious disability or death from severe bleeding. But surgery is risky because if the aneurysm bursts, the surgeon often finds the flow of blood hard to control without damaging the brain or its blood supply.

One way of overcoming this problem is suggested by Dr. T. V. Campkin of the Midland Center for Neurosurgery in Birmingham, England, who reports that a way of operating safely on the blood vessels in the head is through surgery of the chest. Dr. Campkin says that if surgery is performed while the vessel is empty, it prevents aneurysms from bursting, thus preventing operative deaths. This can be accomplished by opening the chest and clamping off the aorta.

But because the brain cannot be without blood for

longer than three or four minutes without damage occurring, Dr. Campkin suggests cooling the patients to six or seven degrees below 37 degrees C.

This enables the brain to survive without fresh blood for up to about eight minutes, giving the surgeon more time to repair the diseased blood vessel.

BRAIN DAMAGE

Intracranial pressures

Severe head injuries often cause increased pressure within the skull, which in turn may damage brain tissue either directly or by blocking the blood supply. Certain signs, such as a slow pulse, rise in blood pressure or dilation of the pupils of the eyes, alert the physician to relieve pressure on the brain. This is usually accomplished by surgically draining a collection of blood or fluid from the skull or by drugs to release fluid.

However, it might be worth while to monitor continuously the pressure within the skull of a patient with serious head injury, according to Dr. R. M. Peardon Donaghy of the Medical Center Hospital, Burlington, Vt., because frequently when the crisis occurs it may be too late to aid the patient.

Dr. Donaghy measured the intracranial pressures in 38 patients with head injuries, 27 of them the result of automobile accidents. The monitored patients were the most seriously ill of over 1,000 head wound patients.

Of the 38 patients, 26 died and 12 lived. Survival, he reports, was directly related to the amount of pressure he could measure in the patients' craniums. He attempted to relieve pressure in all the patients.

Dr. Donaghy says that those patients who died and yet had low pressures generally had greater destruction of brain tissue.

SLIPPED DISK

Enzyme replaces surgery

A new type of treatment for slipped disk may avoid the need for disk surgery, report two Washington, D.C., physicians. Drs. Bernard J. Sussman and Marion Mann of Howard University suggest that instead of cutting away protruding tissue to relieve pressure on the pinched nerve, an enzyme may be used to digest it.

The neurosurgeons explain that when the disk between two vertebrae slips, pressure on the nerve produces pain.

Cutting away tissue relieves pressure on the nerve. But since this tissue is composed of collagen, which is susceptible to breakdown by an enzyme called collagenase, Dr. Sussman suggests digesting the offending tissue with this enzyme. The enzyme therapy would reduce the offending tissue without surgery, and since the enzyme attacks only collagen and not other tissues it should be safe.

The researchers tested the idea in animals and found that collagenous tissue could be destroyed without harming the nerves, the spinal cord, or the dura.