

ventricle on the side of operation to increase in size and make catheter obstruction less likely.

CSF 'PULSE PRESSURES' IN HYDROCEPHALUS

ELDON L. FOLTZ and SCOTT LEDERHAUS (Irvine, California) had recorded ventricular CSF pressures and subdural pressures in 16 normal dogs, two hydrocephalic dogs, and 10 hydrocephalic humans. The aim of this study had been to record the characteristics of the transcerebral pressure of the pulse wave generated in the ventricle by the choroid plexus, and to record CSF 'pulse pressure' relationship to mean CSF pressure relative to peak-to-peak pressure ranges, characteristic waveform and duration, and latency of appearance of the pulse pressure as related to the cardiac QRS complex.

It was concluded from this study that the intracranial CSF compartment acted normally as a dampening and absorbing system modifying the 'water hammer' action of the pulse pressure which presumably originated from the choroid plexus in the ventricles. This effect was apparently the result of expansion of the limiting membranes of the CSF compartment. This might represent part of the so-called 'ventricular compliance' which was an early compensatory factor in hydrocephalus. The venous volume of the brain also acted in a similar manner to reduce the impact of the pulse pressure on the brain. Further indirect evidence to support the concept that the amount of pulse pressure was a critical factor in progressive ventricular enlargement in hydrocephalus was provided by the observation that head compression in the expansile heads of infants with hydrocephalus produced an increased mean pressure but a reduced pulse pressure.

TUMOURS OF THE CLIVUS OF BLUMENBACH

EDWARD S. CONNOLLY and JAMES DOMINGUE (New Orleans) discussed their experience of clivus tumours and reviewed the world literature. Differential diagnosis, clinical course, pathology, and therapy were discussed.

RESULTS AND COMPLICATIONS OF TRANSLABYRINTHINE AND TRANSTENTORIAL APPROACHES TO 60 ACOUSTIC NERVE TUMOURS

T. T. KING (London) had totally removed 60 acoustic nerve tumours by a translabyrinthine or a translabyrinthine-transtentorial approach. The translabyrinthine surgery had been carried out by the otologist and the tumours had been removed by the neurosurgeon. Twenty-nine tumours were large (exceeding 3 cm in diameter), and the remainder were medium sized (1.5–2.5 cm in diameter), or small (intracanalicular). There had been one death. No patient was totally disabled after operation. Of

those with intracanalicular tumours five had returned either to work or to normal activities and one was independent subject to some limitations. All of the patients with medium sized tumours had returned to work. Twenty-six of the patients with large tumours had resumed work, and two patients with large tumours were independent with some limitation of activity. The facial nerve was preserved in all patients with small tumours, in 21 of the 25 with medium sized tumours, and in two of the 29 with large tumours. Facial nerve function was normal in one of the patients with small tumours, in 13 of those with medium sized tumours, but in none of those with large tumours. Slight facial weakness and asymmetry were present in four of the patients with medium sized tumours and in one of those with large tumours. Five of those with small tumours had well-marked facial weakness associated with mass movements. Four of those with medium tumours and one of those with large tumours also had facial weakness and mass movement. The principal complications of these procedures had been 11 cerebrospinal fluid leaks from the ear requiring further operation, temporal lobe epilepsy in 18% of those operated on by a transtentorial approach, and dysphasia in four of 17 patients undergoing transtentorial operations on the left side.

ACADEMY AWARD PAPER

RICHARD L. RAPPORT (Seattle) described the use of phenytoin (Dilantin) in the control of experimental epileptogenic foci in cats.

EFFECT OF TRAUMA ON SPINAL CORD BLOOD FLOW IN MONKEYS

W. GEORGE BINGHAM, JR (Columbus) had used indicator fractionation techniques utilizing [¹⁴C] and antipyrine to measure spinal cord blood flow in normal and in bluntly traumatized spinal cords of adult male Rhesus monkeys. The injuries had been inflicted by dropping 20 g weights from a height of 15 cm on to the exposed T6 segments of the cords. The dura mater had been left intact in each case. Control tissue had been obtained from the T2 segments which had not been injured. After injury the animals had been allowed to survive for periods varying from five minutes to four hours. Arterial pressure, blood gases, and end-expiratory CO₂ were monitored throughout the experiment. During each experiment 25 μCi of [¹⁴C] antipyrine were injected intravenously. Each animal was killed by being injected with a 5 ml bolus of saturated KCl. Four animals underwent laminectomy without cord trauma and served as laminectomy controls. Eight animals were not submitted to surgery and were used for the study of normal flow rates in several cord segments. In both the experi-