

rivatives, to a patient *de novo*. He was inclined to agree with Dr. Frew in thinking that as caffeine produced high tension and stimulated the cerebrum and cord it was rather to be avoided. He pointed out that the depressant action of analgesics was not, as some of the speakers had seemed to indicate, directly due to their action upon the heart, but to their influence upon the vasomotor center, and it was this action which was affected by caffeine. The little known drugs had their uses, and they should be thoroughly investigated before being abandoned. He said that Dr. Liddell's desire for a local anesthetic would probably never be fully satisfied; in the meanwhile, ethyl chloride and cocaine were all that were required. PATRICK.

82. THE TREATMENT OF HYDROCEPHALUS BY INTRACRANIAL DRAINAGE.  
G. A. Sutherland and W. Watson Cheyne (Brit. Med. Jour., No. 1972, 1898, p. 1155).

The authors concluded from the investigations of Leonard Hill that in cases of hydrocephalus if an outlet were provided for the fluid contained in the ventricle so that it might flow into the meningeal spaces, it would rapidly be absorbed by the veins until the cerebral venous pressure and the cerebro-spinal pressure were equalized. In pursuance of this theory they operated upon three cases of congenital hydrocephalus, draining from the ventricle into the sub-dural space by means of catgut.

In the first case the diminution in the size of the head was rather rapid and continuous, but there was no improvement in the infant's mental or physical development, and it died three months after the operation with symptoms of basilar meningitis.

At the necropsy a considerable quantity of straw-colored fluid was found in the sub-dural space. The ventricles were both dilated, but not distended with fluid. The membranes at the base were thickened, and the ependyma of the ventricles formed a distinct membrane of a dark purple color, firm but not granular. The opening into the left ventricle made at the operation was quite evident, and some strands of catgut lay in it, while the rest of the drain could be traced up to the opening made in the dura mater, at which point the brain was adherent to the dura mater. The adhesions formed were soft and easily broken down, and amongst them lay the external ends of the catgut drain. The brain was soft, cystic in parts, and very imperfectly developed.

In the second case there was also prompt and rapid diminution in the size of the head until all the bones of the cranial vault were overriding. At the end of four months the head was noticed to be quite asymmetrical and upon shaving the hair it was discovered that the right side of the fontanelle was tense and fluctuating while the left half gave no evidence of tension. It was apparent that drainage of the left ventricle was complete while that of the right had come to a standstill. Accordingly an operation was performed on the right side similar to that which had been done on the left and this operation was followed by complete disappearance of intracranial tension and gradual diminution in the size of the right side of the head. Six months after the first operation there was overriding of the cranial bones and the child had improved physically, but there was no evidence of mental development.

In the third case there were no apparent results from the operation and it was repeated a fortnight later, also without apparent results. Two weeks after this second operation the child died of measles.

In the discussion, Doctor Stiles reported three operations, all of which terminated unfavorably. PATRICK.