CASE REPORTS

POSTOPERATIVE LOSS OF TEMPERATURE CONTROL—POIKILOTHERMIA*

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(Received for publication May 2, 1957)

Before the days of ACTH and cortisone, radical excision of tumors in the region of the sella turcica was often fatal because of that bête noire of the neurosurgeon, hyperthermia. This was particularly true of the craniopharyngiomas. Recent experience has shown that tumors in the neighborhood of the hypothalamus may be attacked with much more confidence when the patient has been prepared with ACTH, in the presence of intact adrenals; or cortisone, whether or not the adrenals are functioning normally. It is now certain that, in some way, cortisone has an antipyretic effect on the hyperthermia that follows operations in the sellar region.

We are conversant with hyperthermia, but, as far as I know, only two well documented cases of hypothermia with temperatures in adults at or below 94°F. for a number of days have found their way into the literature.

CASE HISTORY

A 32-year-old colored woman was seen at the University Hospital on Sept. 7, 1954, because of difficulty in vision. She had noticed this first as blurring and loss of visual acuity in the left eye in May, 1954. Visual acuity with correction on September 7 was OD 20/15, OS 20/200. The visual field in the right eye was normal, that in the left eye showed a nasal hemianopsia (Fig. 1). Funduscopic examination was entirely negative. The fields were repeated Sept. 24, 1954, with identical findings. Roentgenograms of the skull showed no abnormality and the optic foramina were not enlarged nor was there any erosion in or about the sella turcica.

The patient was urged to report for re-examination within 3 weeks, but did not put in an appearance until February, 1955 when she was admitted to the Hospital on the Neurosurgical Service.

Examination. She could now only count fingers though the pupils still reacted to light and in accommodation, and there was a suggestion of a right homonymous hemianopsia. Her menstrual periods had previously been normal. Neurological findings were normal except for the visual fields. Lumbar puncture revealed an opening pressure of 65 mm. of water; total protein was 33 mg. per 100 cc. There were 6 cells per c.mm. and the blood and spinal fluid Kahn tests were negative. Roentgenograms of the chest revealed evidence of an old tuberculous scar, but showed no indication of active pulmonary disease.

Course. During the first 3 days in the hospital, her temperature, taken by mouth, varied from 98.4°F to 99.2°F. The pulse rate averaged 70, and respiratory rate 20. The blood pressure averaged 100/60 on the ten examinations before the arteriogram. A left-sided arteriogram Feb. 24, 1955 showed evidence of an enormous midline aneurysm, which measured 4 × 4 cm. (Figs. 2 and 3) on the films. It apparently arose from the left internal carotid artery just above the level of the siphon. Right-sided arteriography showed that both anterior cerebral arteries had filled though the aneurysm itself did not fill. There was marked lateral

* Presented at meeting of the Harvey Cushing Society, Detroit, Michigan, April 26, 1957.
displacement of the right internal carotid artery and superior displacement of both anterior cerebral arteries.

Operation. On Feb. 25, 1955, under local anaesthesia, the left internal carotid artery was clamped for 1 hour with no untoward symptoms. The artery was then ligated and divided.

Course. The following evening the temperature rose to 102°F. but fell to 99.4°F. within 2 days. The patient showed abnormal somnolence but there was no weakness of the extremities and no aphasia.

On March 2 (5 days post-ligation) at 4:00 A.M., her temperature suddenly rose to 104.6°F. At 10:00 A.M. it was found to be 105°F. when taken rectally. The blood pressure remained at 110/80. She was both aphasic and irrational. Her normal menstrual period began the same day.

Anticoagulants were administered immediately, and at 9:00 A.M. on the following day the clotting time was 35 minutes. During the course of the day a stiff neck developed and her pupils became dilated and reacted sluggishly to light. Her grip appeared to be equal in both hands. On lumbar puncture the opening pressure was 330 mm. of water. Many red blood cells were present and the fluid was slightly xanthochromatic after having been spun down. The anticoagulants were stopped at 10:00 P.M., at which time the clotting time was 35 minutes. She was given vitamin K and protamine sulfate.

On March 5 the patient was completely aphasic and very lethargic.

On March 17 her rectal temperature fell to 95°F. and did not rise above 94.2°F. on the following day. The bladder was catheterized and the temperature of the urine was found to be 92°F.

On March 19, cortisone was started, 100 mg. by mouth and 100 mg. intramuscularly. Then 100 mg. was given once daily by mouth. By March 21 the temperature had gradually risen to 97.6°F. by mouth and there was no further hypothermia until after the next operation. Between March 23 and March 30 the cortisone was gradually reduced to 12.5 mg. daily.

At the beginning of April the patient had made no progress, remained totally incontinent, and was almost blind. It was decided that the aneurysm should be removed. On the day prior to and on the day of the operation the patient was given cortisone, 100 mg., intramuscularly. On April 5, the day of the operation, a right-sided arteriogram was performed. The aneurysm did not fill but the internal carotid and anterior cerebral arteries demonstrated the same deformities as they had shown on the first arteriogram.

2nd Operation. After a transcoronal incision had been made, a left-sided frontotemporal