Asymptomatic Chromophobe Adenoma in an Eight-Year-Old Child Biopsied by Stereotaxic Technique and Treated with Cobalt-60

Case Report

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Chromophobe pituitary adenomas in children under 10 years of age have been documented only rarely. This is the report of such a tumor in an 8-year-old boy; it emphasizes the simplicity and value of a stereotaxic biopsy.

Case Report

An 8-year-old boy was admitted to Jefferson Medical College Hospital on January 15, 1967, for evaluation of an enlarged sella turcica noted fortuitously in routine skull films for a head injury in November, 1966. Past and family histories were non-contributory.

Examination. The patient was a cooperative and intelligent child with no complaints. His height was in the 10th percentile and his weight was in the 25th percentile. The remainder of the general examination was normal. The visual acuity was 20/20 in each eye, and the extraocular movement was normal. The pupils reacted to light and accommodation. The fundi were normal. Visual field examination revealed no abnormality to white (1/330 W) but close examination with 5 mm red color recognition field (5/330 R) showed a bitemporal upper quadrantanopsia, suggestive of chiasmal compression. The remainder of the neurological examination was normal.

The blood cell count was normal. Urinalysis revealed a specific gravity of 1.019 on one occasion, and 1.029 on another occasion. The protein-bound iodine (PBI) was 4.2, and radioactive iodine (I-131) uptake was 7% (normal, 15% to 40%). The urine gonadotropin content was 6 mouse uterine units/24 hrs, the 17-ketosteroid level 1.7 mg/24 hrs, and urine corticoids 0.71 mg/24 hrs. The cerebrospinal fluid protein was 40 mg%. The chest x-ray film was normal. Skull x-ray films revealed enlargement of the sella turcica to 20 × 18 × 18 mm with thinning and dorsal displacement of the posterior clinoid processes and dorsum sellae.

Fig. 1. Skull film showing an enlarged sella turcica with erosion of the posterior clinoid processes and dorsum sellae.
FIG. 2. Pneumoencephalogram showing indentation of the rostral portion of the third ventricle (arrow) and encroaching upon the interpeduncular cistern by the pituitary mass.

(Fig. 3 left). In intermediate and venous phases, there was a capillary blush in the pituitary region, suggestive of a chromophobe adenoma (Fig. 3 right).

Operation. Because of the roentgenological evidence of a pituitary tumor with chiasmal compression, a stereotaxic transsphenoidal decompression of the intrasellar mass was carried out on February 6, 1967 (Fig. 4) and the pathological diagnosis of a chromophobe adenoma established (Fig. 5). Recovery was uneventful.

Postoperative Course. The patient had Cobalt-60 teletherapy, receiving a tumor dose of 4400 R from February 13 to March 13, 1967. At follow-up 2½ years later, there was no evidence of recurrent pituitary adenoma, and the visual fields had returned to normal. A skull film taken then revealed remineralization of the sella turcica, which had also become considerably smaller (Fig. 6).

Discussion

Pituitary tumors comprise approximately 5% of all intracranial neoplasms in this age