Possible Aetiopathogenetic Correlation Between Primary Empty Sella and Arachnoid Cyst

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With 8 Figures

Summary

Three cases of surgically treated non-neoplastic diseases of the sella (two arachnoid cysts and one empty sella) are reported. All three patients had visual deficits but no gross endocrine disturbances. The study of these three clinical cases and an analysis of the relevant literature suggest a possible unitary hypothesis regarding the pathogenesis of sellar arachnoid cysts and empty sella.

Key words: Arachnoid cysts, hypophysis, sella turcica, empty sella.

Introduction

The recent finding in three cases of non-neoplastic lesions of the sella turcica (two sellar arachnoid cysts and one so-called empty sella) with certain common anatomical and clinical features led us to consider a common aetiopathogenesis.

Published cases of arachnoid cyst of the sellar region are fairly rare, unlike the more frequent arachnoid cysts of the Sylvian fissure and posterior cranial fossa. We recall the cases of Twining et al. in 1936, of Smith and Bucy, of Robertson, of Ring, of Guiot et al., and of Obrador.

Relatively better known because it is simple to diagnose, especially since the introduction of tomography in the course of pneumoencephalography, is the so-called empty sella, characterized by penetration of the subarachnoid space into the sellar cavity through an incomplete diaphragm.

Case Reports

Case 1: B. Beatrice, woman aged 65, admitted to our department for progressively diminishing visual acuity, which had started four years before. Neurological examination revealed bilateral loss of visual acuity, optic atrophy and
bitemporal hemianopia. X-ray of the skull showed an increased anteroposterior diameter of the sella with thinning of the posterior clinoid processes, the dorsum, and the floor of the sella. The aditus was enlarged. The optic foramina were of normal size.

Left carotid angiography with compression of contralateral carotid disclosed raising of segment A1 of both anterior cerebral arteries.

Gaseous cisternal encephalography revealed amputation of the anterior portion of the third ventricle, whose floor was pushed upward and backward. The impression, in the anteroposterior view, came from the left.

Assays of the blood for hormones (FSH, LH, HGH, cortisone, thyroxine, etc.), and of the urine (for 17-ketosteroids and 17-hydroxycorticoids) were normal.

Operation: frontotemporal craniotomy with subfrontal exposure of the structures of the optic chiasma. The optic nerves were splayed and thinned, more markedly on the left. Stretched and projecting between them was a thin greyish membrane, which pulsated rhythmically. A few ml of clear cerebrospinal fluid were drawn off by puncture. The partially collapsed wall was resected between