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Case report

Intrasellar dermoid cyst mimicking pituitary apoplexy: A case report and review of the literature

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ABSTRACT

Intrasellar dermoid cysts are extremely unusual lesions, with only four cases reported to date, and have not been previously reported in association with sudden-onset symptoms. Here, we present the case of an intrasellar dermoid cyst with sudden-onset symptoms mimicking pituitary apoplexy in an elderly woman. A 69 year-old woman presented with sudden onset of headache, dizziness, and decreased visual acuity. Magnetic resonance imaging of the sellar region showed an intrasellar lesion, which showed mixed hyper- and hypointense signal on T1-weighted and T2-weighted images and enhanced peripherally. Endocrine workup showed pituitary hormones within normal levels. According to these findings, the initial diagnosis of nonsecreting pituitary macroadenoma apoplexy was made. Intraoperatively, a large amount of whitish-yellow purulent material was found in the mass and the lesion was partially removed, owing to tight adhesion between remanent mass and surrounding neurovascular structures. Pathology showed a dermoid cyst with abundant neutrophil infiltrations.

1. Introduction

Intracranial DCs are rare, benign, congenital lesions, and they represent 0.04–0.6% of intracranial tumors [1]. Most of them develop along the midline structures, whereas the epidermoid cysts are away from the midline [2]. Most intracranial DCs have fairly typical features and locations, which allows the radiological characteristics to facilitate the diagnosis and to help in operative planning [2]. Nevertheless, intrasellar DCs have been reported infrequently. To date, only four cases have been reported in the international English publications [3–6]. Moreover, intrasellar DC with sudden-onset symptoms has never been described in the literature. In this report, we describe a case of an intrasellar DC in an elderly woman with sudden-onset symptoms mimicking pituitary apoplexy, along with a literature review.

2. Case report

A 69 year-old woman presented to our clinic with a sudden onset of headache, dizziness, and bilaterally decreased visual acuity for 2 days. Physical examination showed blurring of visual acuity, but no other focal neurological deficit. Ophthalmological assessment revealed her vision to be 0.3 in the right eye and 0.25 in the left. Perimetry showed no visual field defect in either eye. Funduscopic examination was normal. Endocrine workup showed levels of pituitary hormones were within normal limits. CT scan of brain showed a mixed hyper- and hypo-dense sellar regional lesion (Fig. 1), which seemed to originate from the pituitary gland. Sellar regional MRI demonstrated a 2.6 cm × 2.8 cm × 2.5 cm intrasellar lesion with slight suprasellar extension that was mixed hyper and hypointense signal on T1-weighted and T2-weighted images. Obvious gadolinium enhancement was noted at the periphery. The optic chiasm was compressed (Fig. 2). The clinical, radiological, and endocrinological characteristics indicated a nonsecreting macroadenoma. Consequently, we considered the most likely diagnosis of pituitary macroadenoma apoplexy with cystic change. We also performed a CT angiogram, which excluded the presence of intracranial aneurysms.

After got the informed consent of the patient, we took her to surgery for transnasal–sphenoidal resection of the mass. After incision of the mass, a significant amount of whitish-yellow purulent material was aspirated under pressure. subsequently, all foreign material was eliminated for decompression, and the mass was partially removed because part of the mass was fixed to surrounding neurovascular structures and pituitary. In addition, surgical field was washed with normal saline after the mass was resected. The microbiological cultures and smear examination of the pus

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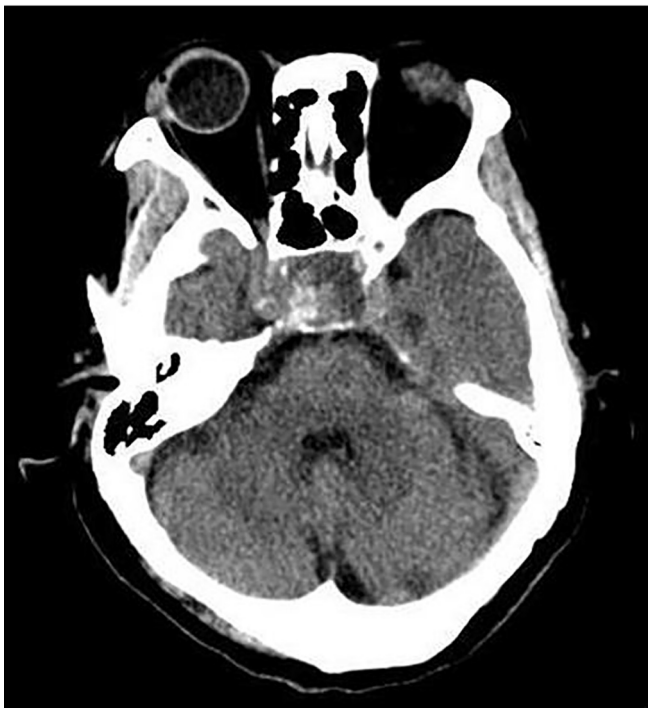

Fig. 1. Axial CT image showing a mixed hyper- and hypo-dense intrasellar lesion.

provided negative results. Histopathological examination of the specimen showed a DC with abundant neutrophil infiltrations (Fig. 3). The postoperative course was uneventful, and the headache and blurring of visual acuity were significantly improved. The patient was discharged home on the day 9 post surgery without any new neurological deficit. At 9 months' follow-up, the patient presented with no signs of recurrence.

3. Discussion

Intracranial DCs are benign, slowly growing lesions. They are thought to arise from the ectopic ectodermal remnants that are incorporated in the neural tube during its closure from the 3rd to 5th month of embryonic development [7]. DC has a fibrous capsule composed of stratified squamous epithelium, and the cyst contains dermal appendages such as hair follicles, sebaceous glands, or sweat glands [2]. About two-thirds of them are located in the posterior fossa [8]. However, intrasellar DCs are relatively rare. To the best of our knowledge, only four cases of intrasellar DCs have been reported to date [3–6]. The reported cases of intrasellar DCs and clinical and radiological characteristics are summarized in Table 1.

The clinical manifestations of patients with intracranial DCs depend on the location of the cyst, its size, and whether or not it has ruptured [9–11]. The major clinical features of an intrasellar mass are quite characteristic of intrasellar DCs, and include endocrinologic abnormalities, visual field defects, and blurring of visual acuity [12]. Arseni et al. [5] described a case of intrasellar

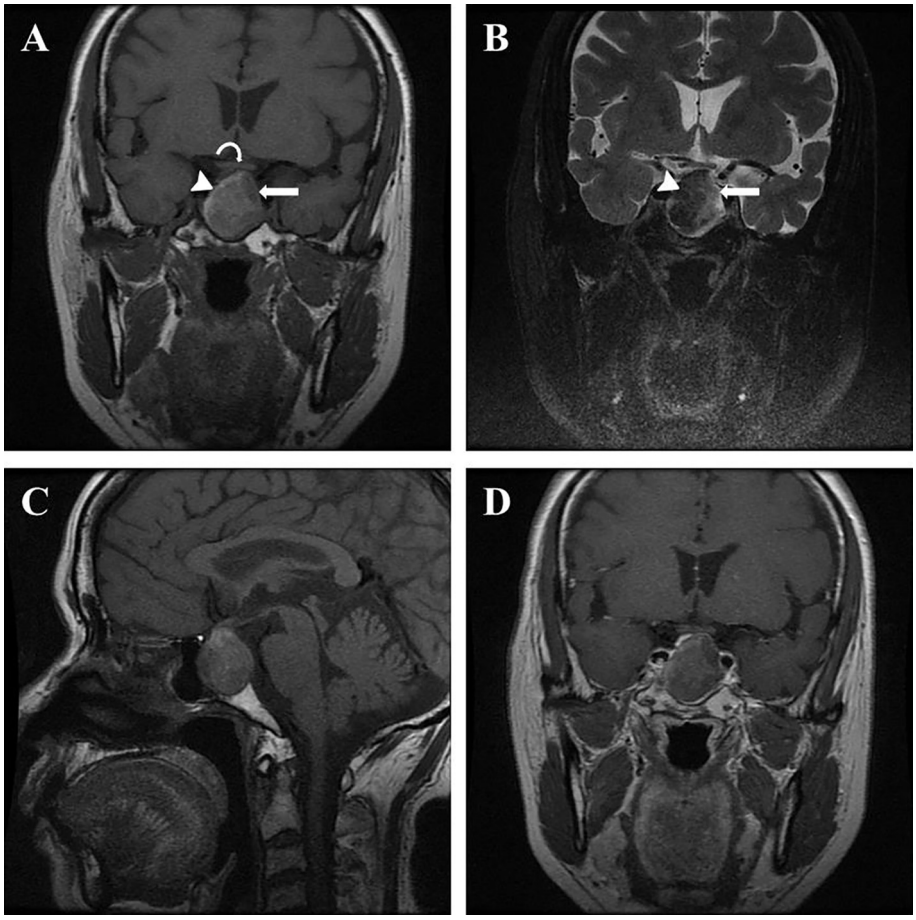

Fig. 2. Preoperative MRI of the patient. (A–C): Coronal T1-weighted MR image (A), coronal T2-weighted MR image (B) and sagittal T1-weighted MR image (C) showing an intrasellar lesion measuring approximately 2.6 cm × 2.8 cm × 2.5 cm, with slight suprasellar extension. The left part of the lesion (arrows) on coronal section displayed hypointensity on T1-weighted MRI and hyperintensity on T2-weighted MRI. The upper right part of the lesion (arrowheads) showed hyperintensity on T1-weighted MRI and hypointensity on T2-weighted MRI. The optic chiasm (curved arrow) was compressed. D: contrast-enhanced coronal T1-weighted images showing obvious enhancement at the periphery.

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