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MRI of a pituitary cryptococcoma simulating an adenoma

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Abstract We describe a rare pituitary cryptococcoma in an immunocompetent patient, with radiological features similar to those of a pituitary macroadenoma. Although unusual, it should be added to the list of differential diagnosis of pituitary masses. Contrast enhancement of adjacent meninges differentiated the lesion from an adenoma.

Key words Pituitary · Cryptococcosis · Magnetic resonance imaging

Introduction

Cryptococcosis of the central nervous system (CNS) is an important clinical problem in patients with AIDS in Western countries [1, 2]. It appears primarily as meningitis, although mass lesions can develop [3–6]. Several reports have described CT and MRI findings in patients with intracranial cryptococcosis [4–8], but none refers to a pituitary cryptococcoma, which we describe.

Case report

A 31-year-old man presented with a 4-month history of headaches, polydipsia, polyuria and decreased libido. Examination revealed no CNS signs. MRI showed enlargement of the pituitary gland with inhomogeneous low signal intensity on T1-weighted images (Fig. 1 a, b), high signal intensity on T2-weighted imaging, and upward extension and chiasmal compression. There was uniform contrast enhancement of the mass and the pituitary stalk, extending to the floor of the third ventricle. The adjacent meninges also enhanced (Fig. 1 c). Our initial diagnosis was pituitary adenoma. Cerebrospinal fluid (CSF) studies on admission showed elevated protein, normal glucose and white blood cells. The cryptococcal antigen test was intensively positive. Needle biopsy of the mass was performed and histological sections confirmed the presence of cryptococci. MRI after 6 weeks of therapy with amphotericin and flucytosine showed the lesion to be smaller (Fig. 2).

Discussion

Cryptococcosis is the most common fungal disease of the CNS; it can occur in immunocompetent and immunocompromised hosts. In 1967 it was reported that 30–50% of these patients have another disease such as a malignant tumour, diabetes mellitus, collagen vascular disease or alcoholism or are treated with immunosuppressant medications such as corticosteroids and cytotoxic chemotherapy [9]. With the advent of AIDS, reports of cryptococcosis appear more frequently [5, 7, 8]. However, in immunocompetent individuals, infection is usually manifest as disseminated pulmonary cryptococcosis and typically induces a chronic granulomatous reaction.

CNS cryptococcal infection affects all age groups and may appear as basilar meningitis or less frequently as cryptococcomas. The CSF findings are nonspecific. Our case is interesting in that the appearance of the lesion was suggestive of a pituitary adenoma on MRI, and it occurred in an immunocompetent patient. MRI showed contrast enhancement of the cryptococcoma and the meninges. Contrast enhancement of cryptococcomas and meningitis is uncommon in AIDS-related cryptococcosis. Probably because of the mild inflammation in patients with AIDS [5–10]. In our im-

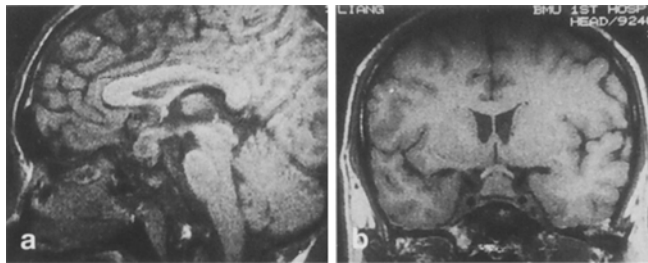


Fig. 1 a, b Sagittal and coronal T1-weighted images show enlargement of entire pituitary gland with inhomogeneous low signal intensity and chiasmal compression. **c** Sagittal contrast-enhanced image reveals uniform enhancement of the lesion and of the stalk and adjacent meninges in addition

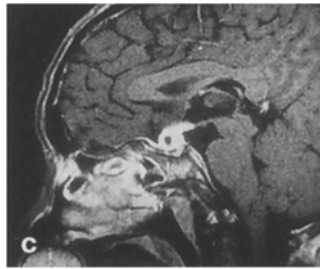


Fig. 2 a Sagittal image after antifungal therapy shows the lesion to have decreased in size. **b** The lesion still enhances in a homogeneous fashion

munocompetent patient the cryptococcoma lay in the pituitary gland, where the blood-brain-barrier is lacking. Nonfunctioning pituitary adenomas are common [11] and of ten grow to a large size before they become

symptomatic. Their characteristic signal intensity is low or isointense on T1-weighted images and high on T2-weighted images [12, 13], with uniform contrast enhancement. These features closely resemble the MRI appearances in our case. However, two important features should have orientated us away from a diagnosis of adenoma: the lesion diffusely involved not only the pituitary gland but the stalk and the floor of the third ventricle; and there was meningeal enhancement, indicating meningitis.

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