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Case Report Open Access

Pituitary Abscess in Post Spinal Anesthesia

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Abstract

We report a case of a 52 year old man, operated under spinal anesthesia for prostate adenoma. He presented two days after this surgery signs of intracranial hypertension. Magnetic resonance imaging of the brain revealed a pituitary abscess. The patient underwent sellar decompression via nasal transsphenoidal route with complete evacuation and irrigation of the pituitary abscess. The patient received appropriate antibiotics for 6 weeks. The histopathology confirmed the presence an abscess cavity featuring multiple fragments of fibrous. Staphylococcus aureus was identified on culture.

Keywords: Pituitary abscess; Spinal anesthesia

Introduction:

Pituitary abscess is a rare entity. To date, only 200 cases have been described in the literature. The majority of pituitary abscesses occur in a previously healthy gland. The pathogenesis of primary pituitary abscess remains unclear. Early diagnosis and treatment with surgical management and antibiotherapy are important [1,2].

Case Report

A 52 year old man, operated under spinal anesthesia for prostate adenoma presented two days after surgery, signs of intracranial hypertension. Laboratory tests indicated diabetes insipidus and elevated CRP and fibrinogen. Lumbar puncture was sterile.

Visual perimetry examination with Goldman's applicator was normal. An endocrinological evaluation showed an increase in prolactin levels (500 ng/mL) with low to normal values for Thyroid-Stimulating Hormone (TSH), Triiodothyronine (T3), Thyroxine (T4), Follicle-Stimulating Hormone (FSH) and Luteinizing Hormone (LH). An insulin tolerance test (0.15 U/kg given intravenously) revealed that his Growth Hormone (GH) and cortisol concentrations were extremely low which suggested anhypopituitarism. Magnetic Resonance Imaging (MRI) examination of the brain revealed a sellar lesion with dimensions of 11×21×23 mm. T2 weighted image showed hyper intense signal in the cyst cavity. The lesion showed ring enhancement with gadolinium (Figure 1).

The patient underwent sellar decompression via nasal transsphenoidal route. There was no evidence of any inflammatory mucosal disease in the sphenoid sinus. The bony sellar floor was very thin. After removal of the floor, the dura was incised with the release of a purulent material under pressure (Figure 2).

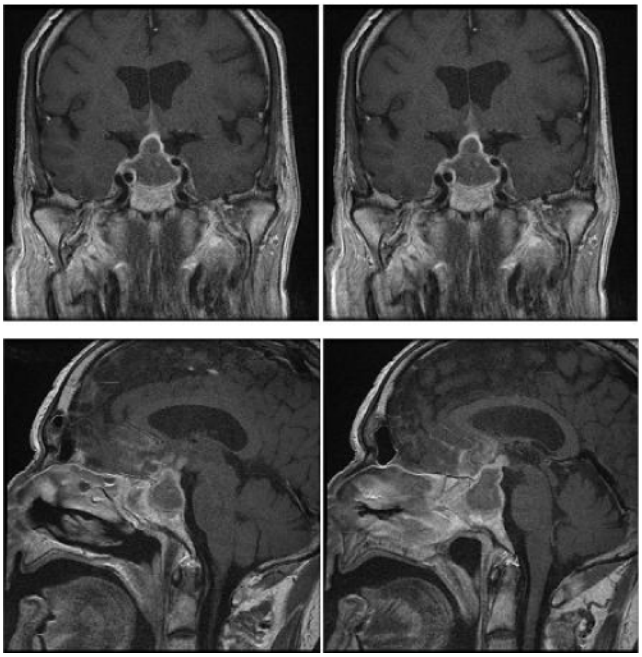

Figure 1: Preoperative magnetic resonance imaging of the brain revealed a sellar lesion with a ring enhancement after gadolinium injection.

Histological examination of this material revealed polymorphonuclear cells and granular debris. No organisms or tumor cells were seen. Staphylococcus aureus was identified on culture.

The patient received appropriate antibiotics (vancomycin for 6 weeks) and hormonal therapy.

Postoperative course was uneventful except for mild transient diabetes insipidus.

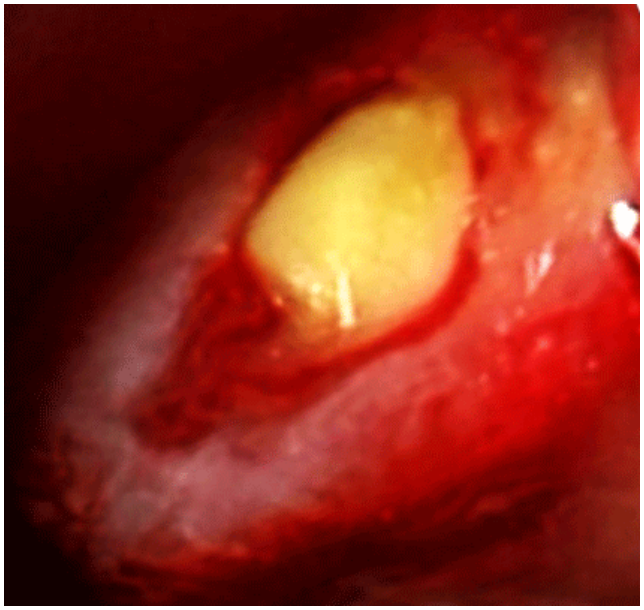

Figure 2: Intraoperative view of the sellar region showing the pus after opening of dura matter.

Discussion

Pituitary abscess is a rare clinical entity but serious intrasellar infection. The first report was by Heslop in 1848 [3]. Only 200 cases of pituitary abscess have subsequently been reported, most of which are single case reports. Males and females are equally affected [4,5]. The mortality is 28% though it is improving with the development of antibiotics [6,7].

The clinical features are usually similar to those of other pituitary masses, as they develop with either endocrinological disturbances and/or symptoms related to the mass effect. The most common clinical symptoms and signs at presentation are Chronic headache, visual disturbances and symptoms of pituitary insufficiency are the usual clinical features [8,9]. Severe symptoms and diabetes insipidus occur much more commonly in patients with pituitary abscess than in patients with pituitary tumours [10]. Symptoms and/or signs of evident meningitis are rare [9].

The pathophysiology remains unclear in our case. We can consider two hypotheses. The first is a contamination by spinal anesthesia but this hypothesis remains unlikely because lumbar puncture was sterile. The second is a latent pituitary abscess decompensated by surgery. The preoperative diagnosis is quite difficult, even with MRI, which shows non-specific cystic lesions. The presence of an intrasellar expansive lesion with a liquid center and a contrast-enhanced outline suggests an abscess, particularly when this is associated with sphenoid sinus effusion [11].

The typical MRI finding as associated with pituitary abscesses are of a low-intense lesion in T1 weighted sequences and one of high-intensity in T2. The most consistent findings in MRI studies were enlargement of the sella turcica as well as a cystic intra- and supra-sellar lesion with ring enhancement after contrast injection [12]. The principle management of pituitary abscess is thorough surgical drainage. Intra-operatively, the keys to surgery are washing the pus cavity repeatedly with hydrogen peroxide and gentamicin saline, protecting the normal pituitary tissue and avoiding a leak of cerebrospinal fluid, and letting the saddle and sphenoidal sinus empty instead of forcing a gelatin sponge at the end of the operation. The most common complications of surgery for pituitary abscess include meningitis, cerebritis, infectious vascular injury, and cerebrospinal fluid leakage. Fortunately, none of these occurred postoperatively in our patient; however, they are reviewed by Bossard et al. [11] and well-documented in the literature. Broad-spectrum antibiotic therapy, which includes agents that are effective against Gram-positive, Gram-negative, and anaerobic bacteria, should be initiated as soon as the diagnosis of pituitary abscess is strongly suspected in a patient who exhibits symptoms of sepsis preoperatively, or confirmed during surgery [12].

The prognosis of pituitary abscess is excellent with appropriate management. Neurological outcome is usually slow with significant improvement in visual acuity and field loss. The long-term endocrine outcome is usually good with a strong potential for recovery of normal pituitary function [13].

Conclusion

Pituitary abscess is a rare cause of pituitary mass, but the diagnosis should be suspected particularly in a patient with a pituitary mass discovered after recent surgery under spinal anesthesia. The prognosis is excellent if early diagnosed and treated with surgery, antibiotics and hormone replacement.

Conflict of Interest

There are no conflicts of interest. No funding was received for this work.

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