Pituitary Abscess, A rare cause of Hypopituitarism
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Introduction: Pituitary abscess is a rare condition, representing 0.2-0.6% of all pituitary lesions. The presentation can be non-specific, and imaging can mimic a pituitary adenoma, often making the diagnosis challenging. We present a case of a pituitary abscess from Staphylococcus epidermidis and Corynebacterium propinquum with resulting hypopituitarism and central diabetes insipidus (DI).

Clinical case: A 42-year-old man with a history of hypothyroidism secondary to thyroiditis presented to the emergency room with sudden onset headache, nausea, and emesis. There were associated symptoms of fatigue, weight...
loss, and sexual hypofunction for approximately six months. He did not have fever or leukocytosis. Brain MRI revealed a 2.5×1.8×1.6 cm sellar and suprasellar mass with rim enhancement and compression of the optic chiasm. Pre-operative pituitary hormonal evaluation showed central hypogonadism, growth hormone deficiency and secondary adrenal insufficiency: FSH 0.4 mIU/mL (n < 15 mIU/mL), LH < 0.2 mIU/mL (n < 10 mIU/mL), AM Testosterone 8 ng/dL (n 250-1100 ng/dL), IGF-1 38 ng/ml (n 52-328 ng/mL), ACTH 5.6 pg/mL (n 7.2-63 pg/mL), AM cortisol 4.9 ug/mL (n 4-10 ug/dL). Prolactin was normal (14.7 ng/mL, n < 15 ng/mL). TSH was elevated to 4.88 uU/mL (n 0.3-4.2 uU/mL) with a low FT4 of 0.5 ng/dL (n 0.6-1.5 ng/dL) on levothyroxine 75mcg daily. He was started on stress doses of hydrocortisone and underwent trans-sphenoidal pituitary resection. Intraoperative findings were significant for 3-5 mL of purulent debris in the sella suggestive of a pituitary abscess. He was started on Ceftriaxone, Metronidazole, and Vancomycin, with improvement in headache. Pituitary abscess cultures grew Staphylococcus epidermidis and Corynebacterium proinquaum. Blood cultures were negative for any bacterial growth. Post-operative course was complicated by transient DI. The patient was discharged on Linezolid to complete six weeks of antibiotics, a physiological dose of hydrocortisone (20mg daily), and levothyroxine 88mcg daily. At outpatient Endocrine follow-up a month later, he was found to have a recurrence of DI and started on maintenance desmopressin with improvement in polyuria and polydipsia.

Conclusion: Pituitary abscesses are rare, life-threatening pituitary lesions. 70% of cases are primary pituitary abscesses, which develop in a previously healthy gland. Secondary pituitary abscesses arise within a pre-existing pituitary lesion and are less common. Clinical manifestations include headache, visual disturbance, and hypopituitarism. The diagnosis is challenging since classical signs of infection, such as fever and leukocytosis, are uncommon, and pre-operative radiological findings can be non-specific. The majority of cases are confirmed intra-operatively. Commonly isolated organisms are Gram-positive cocci (Staphylococcus and Streptococcus) and Gram-negative bacteria (Neisseria, Escherichia coli and Corynebacterium). This case highlights the importance of considering pituitary abscesses in the differential diagnosis of patients presenting with a sellar mass. Prompt recognition of a pituitary abscess will allow for rapid treatment with trans-sphenoidal evacuation, antibiotic therapy, and pituitary hormonal replacement when indicated.

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