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HISTOMORPHOLOGY OF CHRONIC HYPOPHYSITIS - A RARE CASE REPORT

Pathology

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ABSTRACT

Chronic hypophysitis is extremely rare entity and usually presents with inflammation of the pituitary gland. Most commonly presents with headache and visual disturbances. Hypophysitis is rare and its etiology is not fully understood. It commonly affect females during pregnancy or in the postpartum period. Its clinical presentation (hypopituitarism, mass effect, hyperprolactinemia) and radiological findings may mimic pituitary adenoma. Complete laboratory evaluation with imaging is required to refine the diagnosis. The definitve diagnosis of chronic hypophysitis cannot be made without histopathology. We describe the histomorphology of chronic hypophysitis in a 45 year old male patient.

KEYWORDS

Diabetes insipidus, Hypophysitis, Headache, Inflammation

INTRODUCTION-

Chronic hypophysitis is extremely rare entity and usually presents with focal or diffuse inflammation and cellular infiltration of the pituitary gland.[1] Hypophysitis is a rare disease accounting for around 0.24%-0.88% of all pituitary diseases,with a reported annual incidence rate of 1 case per 9 million.[2] First case was reported in 1962 and condition shows a striking female preponderance (F:M =9:1).It mainly affect females during pregnancy or in the postpartum period.[3] On the basis of histological and pathophysiological mechanism, the pituitary gland inflammation is classified as primary and secondary hypophysitis. Secondary hypophysitis can be arise from neighbouring tissue lesions or multisystemic inflammatory diseases.[4] Primary hypophysitis is classified as lymphocytic, granulomatous, xanthomatous, IgG4-related and lymphoplasmacytic. According to the anatomical location, hypophysitis lesions is classified as adenohypophysitis, infundibuloneurohypophysitis or panhypophysitis.[5] This condition can mimic other sellar lesions. Its clinical presentation (hypopituitarism,mass effect,hyperprolactinemia) and radiological findings closely mimic pituitary adenoma. [6] We describe the histomorphology of chronic hypophysitis in a 45 year old male patient.

CASE REPORT-

A 45 year old male presented with history of headache,blurring of vision and dropping of eyelid since 3 months. He was a known case of diabetes insipidus. MRI brain revealed a diffuse homogeneous sellar mass with enlarged pituitary gland and pituitary stalk and was diagnosed as pituitary adenoma. Following this tissue biopsy was sent for histopathological examination.Multiple section examined from the pituitary showed extensive fibrosis along with chronic inflammation [Figure 1 and Figure 2]. Focal areas also showed presence of hemosiderin pigment.No evidence of any pituitary tumor was seen.So on the basis of histological findings, a diagnosis of chronic hypophysitis was rendered.

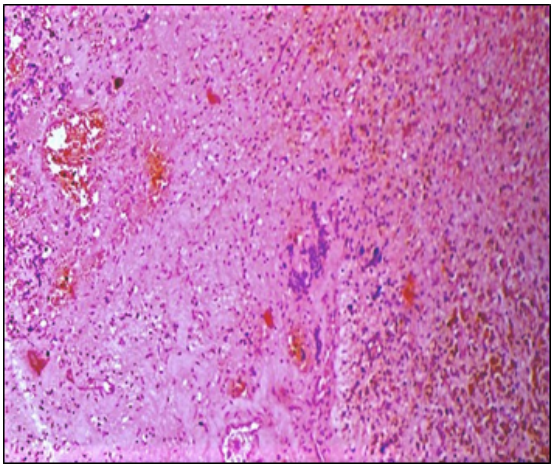

Figure 1(10X)- HandE showing extensive fibrosis, hemosiderin pigment and chronic inflammation

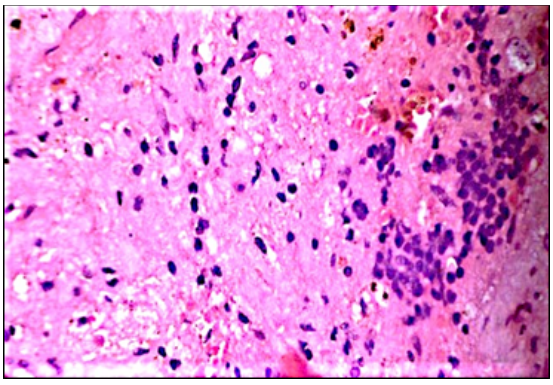

Figure 2(40X)- HandE showing chronic inflammation comprising of lymphocytes

DISCUSSION-

Chronic hypophysitis is an uncommon disease, so it can easily be overlooked when diagnosing an intrasellar mass. It is a chronic inflammatory condition of the pituitary gland and classified according to etiology i.e primary and secondary,on the basis of morphology i.e adenohypophysitis,infundibuloneurohypophysitis and panhypophysitis and on the basis of histopathology i.e chronic, granulomatous, xanthomatous and plasmacytic.[3] Incidence of lymphocytic hypophysitis peaks during the fourth decade of life and is uncommon in children and elderly.[5] In our case also age of the patients was 45 years. Most of the patients presents with the symptoms related to the mass effect such as headache, visual symptoms and multiple pituitary hormone deficiency.[7] In our case also main complaints were of headache,blurring of vision,dropping of eyelid. Presence of diabetes insipidus at presentation almost completely rules out the diagnosis of pituitary adenoma and raises suspicion of infiltrative or inflammatory disease.Our case was also known case of diabetes insipidus.The differential diagnosis of Hypophysitis include tumors such as pituitary adenoma, craniopharyngioma, gliomas, meningioma, lymphoma/leukemia, metastasis, teratoma, dermoid/epidermoid tumor, chordoma and inflammatory conditions like sarcoidosis, langerhans cell histiocytosis, abscess and tuberculosis.[8]The diagnosis of chronic hypophysitis usually cannot be made with confidence on clinicoradiological findings. In our case also diagnosis of pituitary adenoma was given on the radiological findings. So, definitive diagnosis of chronic hypophysitis usually need tissue biopsy and histopathology. Thus, histopathological examination is the gold standard. Histologically,chronic hypophysitis is characterized by the diffuse infiltration of the pituitary by the inflammatory cells, predominantly lymphocytes that may form lymphoid follicles and variable degree of the reactive fibrosis.[9] In our case also, histomorphology of pituitary gland showed chronic inflammation along with extensive fibrosis. Management of hypophysitis usually requires symptomatic treatment approach and hormones replacement therapy. Surgical treatment is generally needed in patients who are unresponsive to medical treatment and to improve the compressive

neuropathy symptoms in big sized pituitary gland.[10] In our case, patient was also managed medically with the corticosteroids and desmopressin only.

CONCLUSION-

This interesting case is important as few cases has been reported in the literature.The diagnosis of chronic hypophysitis usually requires a thorough evaluation for other potential neoplastic lesions, infiltrative diseases, inflammatory processes and histopathologic examination. Complete laboratory evaluation with imaging is typically required to refine the diagnosis. However, the definitve diagnosis of chronic hypophysitis cannot be made without a tissue biopsy and histopathology.Thus, histopathological examination is the gold standard.

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