



SELLAR SUPRASELLAR CAVERNOUS HEMANGIOMA: A RARE CASE REPORT

Neurosurgery

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ABSTRACT

Lesions in the suprasellar and hypothalamic area always lead to diagnostic and management problems. Cavernous hemangiomas in this location have rarely been reported in the literature. We report an unusual case of a 53 year male patient admitted in our hospital with sellar region mass abutting the optic chiasma with invasion of bilateral cavernous sinuses and encasing b/l Internal carotid arteries with non visualized pituitary gland separately from this mass – likely Pituitary macroadenoma. The patient underwent surgery by transcranial approach. Intraoperatively, the mass was highly vascular. Subsequent histopathological examination confirmed the diagnosis of Sellar cavernous hemangioma. Cavernous hemangiomas account for 5-13% of the intracranial vascular malformations and occur in approximately 0.5 to 1% of the population. Due to its high vascularity and profuse bleeding, piecemeal subtotal resection of suprasellar cavernous hemangiomas followed by radiotherapy may be considered as the most effective strategy.

KEYWORDS

Sellar, suprasellar, cavernous hemangioma, vascular malformation

INTRODUCTION

Lesions in the suprasellar and hypothalamic area always lead to diagnostic and management problems. Cavernous hemangiomas in this location have rarely been reported in the literature, and in such cases the diagnosis was not made preoperatively [1]. Cavernous hemangioma, also known as cavernoma, is defined as an abnormally enlarged collection of vascular channels without intervening brain parenchyma, large feeding arteries or large draining veins between sinusoidal vessels. We report an unusual case of an intrasellar cavernous hemangioma with para- and suprasellar extension that was initially thought to be a pituitary macroadenoma.

CASE REPORT

A 53 year male patient was referred to be admitted in our hospital on 14.07.2022 with complaints of headache, drowsiness and diminution of vision since 2 months. On examination, patient had hyponatremia (Na^+ 115 mmol/L), rest cranial nerves assessment was unremarkable except for his vision problem. Detailed ophthalmological examination revealed decreased visual acuity in both eyes.

Endocrinological assessment revealed low cortisol levels (0.1 mcg/dl) as the patient was on dexamethasone therapy. Rest hormone profile was within normal limits.

Contrast enhanced MRI Brain dated 22-07-2022 suggested a well defined lobulated enhancing mass lesion (38x23x22 mm) involving the sellar region abutting the optic chiasma with invasion of bilateral cavernous sinuses and encasing b/l Internal carotid arteries with non visualized pituitary gland separately from this mass – likely Pituitary macroadenoma. The mass appeared predominantly hypointense on T1 sequence and heterogeneously hyperintense signal intensity on T2 and FLAIR weighted images. It showed intense post contrast enhancement with no evidence of necrosis within [Figure 1]

The patient underwent surgery by transcranial approach on 23.07.2022. Left sided Fronto-temporo-parietal-craniotomy was done with subtotal resection of tumour and biopsy was sent for histopathological analysis. Intraoperatively, the mass was highly vascular. Special attention was directed to obtain complete hemostasis. Subsequent histopathological examination confirmed the diagnosis of Sellar cavernous hemangioma [Figure 2]. Post operatively, the patient was stable with deficits except for third cranial nerve palsy resulting in drooping of left eyelid. Patient was discharged in satisfactory condition.

Follow-up MRI done on 22-09-2022 showed adequate decompression

of the optic chiasm and nerves despite an intrasellar residual lesion [Figure 3]

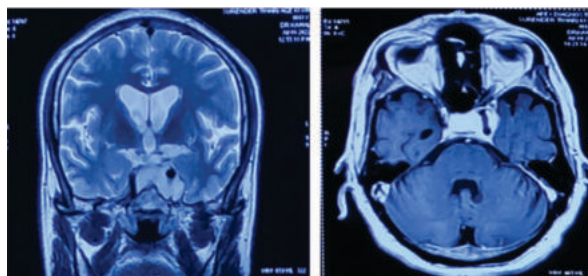


Figure 1- Pre Operative MRI Image

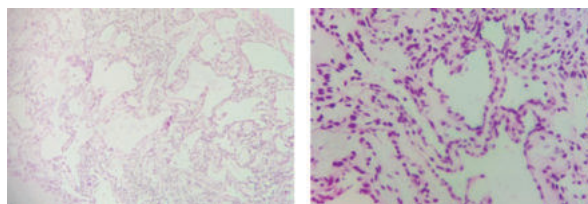


Figure 2- Histopathological Images Showing Network Of Vascular Channel Lined By Endothelial Cells

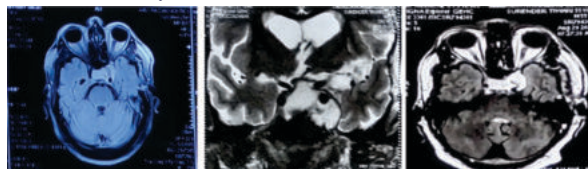


Figure 3- Post Operative MRI Image

DISCUSSION

Vascular malformation of the central nervous system are commonly divided into 4 groups: arteriovenous, venous, cavernous malformations and capillary telangiectasis [2]. Cavernous hemangiomas (angioma, malformation, cavernoma) account for 5-13% of the intracranial vascular malformations and occur in approximately 0.5 to 1% of the population [3].

Cranial nerve palsies caused by cavernous sinus extension or

secondary visual impairment due to optic chiasm compression are common clinical findings [4]. All these clinical manifestations, however, are not characteristic enough to help in the differentiation between sellar cavernous hemangioma from other pathologies more commonly found in the sellar and parasellar regions such as pituitary adenomas, meningiomas, cysts, aneurysms, and Schwannomas [5].

High-field MRI is a very sensitive technique for the imaging of intracranial haematomas and thrombosis, which are always present in cavernous hemangioma. Sequential changes in the evolution of blood products have been described previously. Cavernous hemangioma has a characteristic appearance on high-field MRI. This consists of a heterogeneous core with multiple foci of hyperintensity on T1- and T2-weighted images which correspond to bleeding in different stages of evolution and thrombosis. Interspersed areas of low to moderate signal are due to fibrosis and calcification as well as haemosiderin, and a peripheral hypointense rim of haemosiderin, most prominent on T2-weighted images, is present. Lesions usually have well-defined margins and neither oedema nor a mass effect is present. The suprasellar area is a rare location for cavernous hemangiomas [1].

CONCLUSION

Due to its high vascularity and profuse bleeding, piecemeal subtotal resection of suprasellar cavernous hemangiomas followed by radiotherapy may be considered today as the safest and most effective strategy.

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