CASE REPORT

Unusual Per-operative Findings of Craniopharyngioma : A Case Report

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Abstract :

Mrs. SY, A 22 years old woman was admitted in Apollo Hospitals Dhaka as a diagnosed case of suprasellar tumour and underwent craniotomy. Histopathological report of her tumour revealed it to be craniopharyngioma. Craniopharyngioma is a common intracranial tumour. But usually they are childhood tumours. Clinical features of craniopharyngioma are very typical as this patient presented with. Per-operative findings of this case was very unusual and surprising considering the nature of the tumour. There was bony invasion (erosion), dural infiltration and cerebral cortical seedling. These findings are not usually found in craniopharyngioma. Probably this the first bony invaded craniopharyngioma reported in this country.

Introduction:

Craniopharyngioma is one of the most common intracranial tumours of childhood . A bimodal age distribution is seen for these tumours at presentation, with the first peak between five and ten years and the second between fifty five and sixty years [1,2,3]. Seventy percent of craniopharyngiomas occur below the age of 20 years [4,5]. According to some Indian studies, males predominate by a ratio of 3:2. But equal sex distribution was reported in most of the large studies [6,7]. The term craniopharyngioma was first described by Cushing who stated that this tumour is originated from epithelial nests ascribable to an imperfect closure of the hypophyseal or craniopharyngial duct [8]. Craniopharyngiomas are most frequently cystic tumours or have a large cystic component, though sometimes they can be entirely solid or may present as a solid rock of calcium. These tumours are located mainly in the suprasellar region as the site of origin is usually along the infundibulum at the floor of the third ventricle. As the tumour enlarges, it often extends into the sella inferiorly and elevates the floor of the third ventricle superiorly or it may develop preferentially in one direction. Ectopic craniopharyngiomas have been observed in the cerebello-pontine angle [9,10] and even in the calvarium and the epidural space along the tract of previous surgery [11,12]. Invasion of the skull base was seen in two cases in a study done by Bhagwati et al.[13]. Invasion of the sphenoid bone [14] nasopharynx [15], the orbit [16] and the cavernous sinus [17] has also been reported. The outer surface of the tumour is grayish pink in appearance. It is often irregular and adherent to the surrounding structures. Clinical features of craniopharyngiomas vary in different ages. Symptoms and signs of raised intracranial pressure predominate in children and

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endocrinological deficits in adolescents. Visual symptoms predominate in adults [18], while the elderly present with mental disturbances. Infiltration of dura and invasion of inner table of skull is a rare presentation of craniopharyngioma. Only a few cases were reported on such presentation, none in this country.

Case report :

Mrs. SY, a 22 years old housewife was admitted in Neurosurgery department of Apollo Hospitals, Dhaka with the complaints of headache for four years and gradual dimness of vision for two months. Her headache was global in nature which was more severe for previous two months and used to be relieved by analgesics. There was no history of vomiting, convulsion or unconsciousness. On admission, higher psychic functions of the patient were normal. She had right sided homonymous hemianopia. Other neurological parameters were within normal limit. Plain X-ray of skull showed calcification in suprasellar area with slight enlargement of sella. MRI of brain demonstrated a huge circumscribed mass in suprasellar region which was slightly hyperintense in T1W, markedly hyperintense in T2W and moderately enhanced by contrast. Outer surface of tumour was 3-4 centimeter from cortical surface. Her hormonal studies were within normal limit except slight rise of serum prolactin (59 ng/ml, normal value: 10-20 ng/ml). The provisional diagnosis was craniopharyngioma.

The patient was prepared for surgery and craniotomy was done on 11th June 2005. After removing the cranial bone, surprisingly, bony erosion was found in inner table of bone flap and also infiltration of dura by tumour tissue was noticed as it is seen in convexity meningiomas. After opening the dura, seedling of tumour was also found in cortical surface just underneath the involved dura. But the tumour was found in suprasellar area after retracting the frontal lobe, which was few centimeters away from the surface. There was no communication between the suprasellar tumour and the surface tumour tissue. Tumour tissue was sent for histopathology and it was reported craniopharyngioma. Post-operative recovery of the patient was uneventful. She improved her vision slightly and she was discharged with a haemodynamically stable condition.

Discussion:

Craniopharyngiomas are very common tumours from neurosurgical point of view. Due to its nature of spreading in different ways it has different presentations. Presenting features also vary among different age groups. But bony invasion and dural infiltration are really very rare. These are common features of intracranial meningiomas. Meningiomas of different locations and histopathological subtypes show the tendency to invade bone. In case of craniopharyngiomas, only a few cases were reported where there were invasion of bones. Bhagwati et al, out of their 83 cases[13], found only two cases to invade skull base. Cooper et al, reported sphenoidal invasion in only one case in their study[14]. Demarel et al found craniopharyngiomas to invade orbit[17]. In this country, there is no report of craniopharyngiomas to invade nearby bony structure.

Tumour of the patient was solid in nature with a calcified part within it. Presenting age of this case did not follow the bimodal peak. But most surprising was the ectopic seedling of tumour tissue as well as its dural and bony

invasion. However, due to some technical problems the invaded tissue could not be sent for histopathology. So there is a chance that the external tumour might be an early meningioma. Even then co-existence of both tumours in the same patient would be another unusual phenomenon.

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