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CASE REPORT

Nasopharyngeal Angiofibroma

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Abstract

Nasopharyngeal angiofibroma (NA) is a rare, highly vascular, benign lesion typically affecting young males. It is prone to spontaneous bleeding even after minor trauma. Reported here is a case of an 18 years old male with almost 8x8cm swelling in the left cheek. There was nasal obstruction due to mass in the left nostril and he had a history of obstructive sleep apnea and frequent epistaxis. Case was treated with surgical resection of tumor using Weber-Ferguson approach. Histopathology report revealed it to be nasopharyngeal angiofibroma.

Keywords Angiofibroma, Tumor, Vascular

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Introduction

Nasopharyngeal angiofibroma is a benign lesion with high vascularity. Its a rare tumor that was first documented in the fifth century BC.[1] It was later called Juvenile Nasopharyngeal angiofibroma by Friedberg in 1940. The most probable reason for declaring it Juvenile Nasopharyngeal Angiofibroma was that most of the cases were between the age of 14-25 years, but occasional cases occur in older patients as well.[2] Other terminologies are also used for Nasopharyngeal angiofibroma such as juvenile angiofibroma (JAF) or fibromatous.[3] It is also called angiofibromatous hamartoma of the nasal cavity since some researchers believe that NA is hamartomatous in nature, leading to a debate about the origin of NA, that is hamartoma and vascular malformation theories.[4] It is remarkable to note that NA is prevalent in the male population owing to the presence of high androgen receptor (AR) expression, signifying that NA proliferation depends on androgen hormone.[1,2] It is uncommon, comprising only 0.05% to 0.5% of all tumors of the craniofacial and neck region.[5] On histopathological evaluation, most of the cases are found to be benign, however, it frequently expresses aggressive pattern, locally invading orbital and intra-cranial region in about 10% to 37% of all cases of NA.[6,7]

Reported here is a case of an 18-year-old male patient with nasopharyngeal angiofibroma on the left side of the face.

Case Report

An 18-years-old boy, belonging to low socioeconomic status, presented with a mass in the left side of his cheek and nose. He had a history of frequent epistaxis, snoring and obstructive sleep apnea. There was a soft to the firm, well-demarcated tumor on the left side of the cheek. Superio inferiorly, it was extending almost 3cm away from the left infraorbital margin and going down till the base of the mandible. Mediolaterally, it was extending from the left nasolabial fold and ending almost 3cm interior to the posterior ramal margin. Overlying skin color, temperature and texture were

normal (Figure-1). The left nostril was obliterated with the mass whereas right nostril was clear. Intraoral examination showed a bimanual palpable mass in the left cheek extending to the left side of the soft palate. The soft palate was bulging down due to the mass and causing the oronasal obstruction. The overlying mucosa was normal. All cranial nerves were intact. There was no significant past medical and surgical history. Family history was also insignificant.

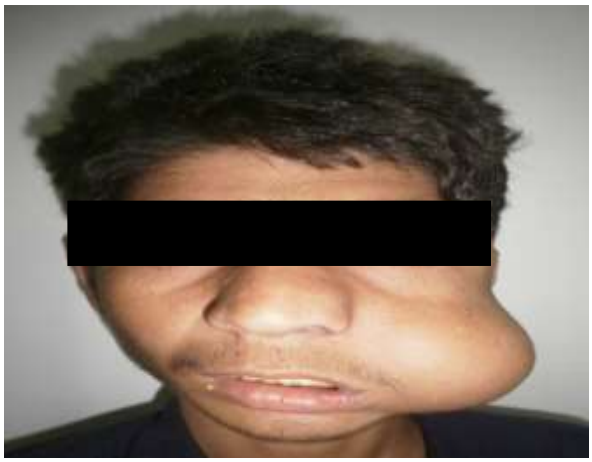

Figure-1 clinical picture

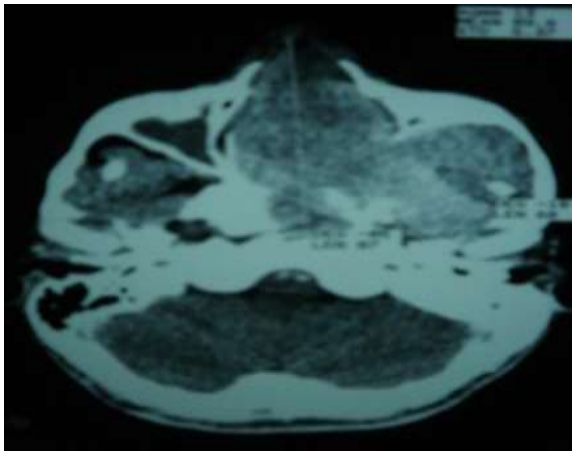

Figure- 2 Axial view of CT scan showing the tumor

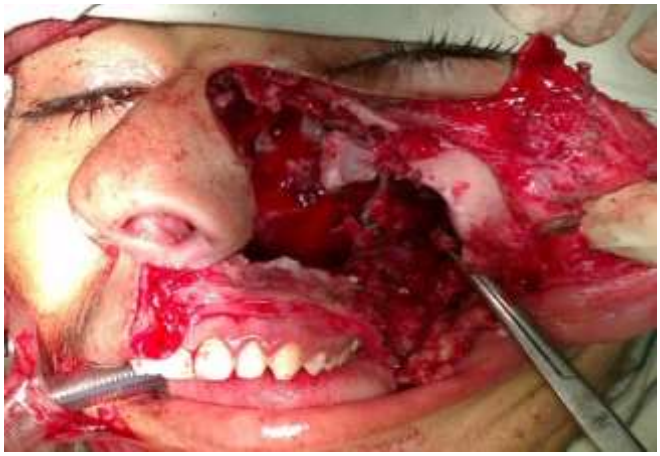

Figure-3 Per operative Pic

Figure-4 Resected specimen

A contrast-enhanced CT scan of the face in all three planes was carried out, which revealed a hyperdense mass occupying entire left maxillary sinus, eroding the posterior maxillary wall and extending into the soft palate. The left nostril was fully obliterated with the mass eroding the nasal septum and extending in the right nostril (Figure-2).

Informed consent was taken from the patient prior to surgery. Under general anesthesia, left Weber-Ferguson incision was made to expose the tumor. Osteotomy of the lateral antral wall was done to expose the lesion. The lesion was removed by finger dissection and it was pulled out in total with slight pressure (Figure-3). Irrigation was done and maxillary anterior wall was fixed back with mini plates. The incision was closed with proline. Post-

operative antibiotics and analgesics were given. The patient's obstructive sleep apnea was immediately corrected postoperatively. The resected specimen (Figure-4) was subjected to histopathology which revealed it to be nasopharyngeal angiofibroma. There was no recurrence after a followup of five years.

Discussion

Our patient was 18 years old male that is in correspondence with the reported literature.[1, 2] Aggressive expansion of nasopharyngeal angiofibroma is well documented.[7] Our patient also reported rapid progression of the tumor, obliterating the right maxillary sinus and right nostril. Profuse bleeding was noted during the operation, which is one of the features of such tumors because of high vascularity, as also documented in other researches.[8] Since NA is a vascular lesion; it has one or multiple feeding arteries making the tumor prone to bleed profusely. The primary vascular supply is the internal maxillary artery. Lesions with increased size involve large arteries and, in some cases involving vessels bilaterally. The second most common artery of notable size is the ascending pharyngeal artery. The most common internal carotid artery branch recruited for feeding the lesion is the internal maxillary artery and the second most common is the ophthalmic artery.[9] Other characteristics of this tumor include unilateral swelling of the cheek region with congestion of the nasal cavity and hyposmia, similar to this case. For diagnosis of NA, CT scan and MRI are considered reliable diagnostic radiological imaging modalities. With the aid of a CT scan, the extent of the tumor along with bone destruction can be seen. If soft tissue invasion of the intracranial region is suspected, MRI should be considered and preferred over CT imaging, the reason being its capability to visualize the soft tissues.[10] However, the diagnosis would only be confirmed after histopathological examination of the excised specimen. The biopsy specimen shows the presence of a fibrous stroma interspersed with spindle cells and irregularly arranged collagen. The scattered vascular component is also noted containing irregular clusters of blood vessels with absent or incomplete lining, dilated or fissured, having different diameters. An increase in vascular constituent is present in the peripheral part of the tumor.[6] Surgical resection of the tumor remains the best treatment of choice for NA. We treated this case using the Weber-Ferguson approach. The advantages of using this apprioach were; a good surgical exposure and ease to control the hemorrhage. However a surgical scar mark on the face is the limitation of this approach.

Conclusion

Nasopharyngeal Angiofibroma is rare, a benign tumor affecting mostly young males. Because of its aggressive nature, it needs the urgent attention of health care professionals; delay in the treatment of NA can result in irreversible damage to olfactory and ophthalmic function. The best imaging modality for NA is CT scan and MRI. Surgery remains the treatment of choice for NA however special consideration must be given to the bleeding tendency of the tumor.

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