NASAL ANGIOFIBROMA : An Unusual Presentation

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Introduction

Angiofibromas are vascular tumours presenting in the nasopharynx of prepubertal and adolescent males and exhibiting a tendency to bleed. These tumours can be diagnosed with a high degree of accuracy by their clinical appearance supplemented with modern radiological techniques. Here we present and discuss an unusual presentation of angiofibroma in an adult male involving only nasal cavity and having abnormal radiological features.

Case Report

A 39 year old male patient was referred from the medical OPD to rule out cause of haemoptysis. The patient gave history of coughing out few drops of fresh blood every morning since 2-3 months. He had no history of fever, loss of weight, tuberculosis or bleeding disorder. There was no history of nasal obstruction, anosmia, rhinorrhoea, headache or epistaxis in the past. General and systemic examination were normal. Examination of the nose revealed a fleshy greyish white polypoidal mass in the left middle meatus region which bled on probing, did not shrink with vasoconstrictor and was not friable. The nasal septum and mucosa were normal. Paranasal sinuses and posterior rhinoscopy did not reveal any abnormality. Aural examination was normal. Examination of the throat did not reveal any trismus, oral and oropharyngeal and indirect laryngoscopy were normal. There was no cervical lymphadenopathy. Parotid region, cheek and temporal regions did not reveal any swelling. Ocular examination and cranial nerves were also normal. Radiograph of chest and haematological investigations were normal. X-ray PNS showed haziness of the (L) maxillary antrum, without any bony erosion. Radiographs of nasopharynx and skullbase were normal. Biopsy of the mass was done cautiously which showed a vascular tumour though no specific diagnosis could be established, angiofibroma was a possibility but the other clinical findings were contrary to it. CT of PNS (plain and contrast) was then asked for which revealed a mild enhancing heterogenous soft tissue mass (post biopsy) in the region of the middle turbinate, laterally the mass was seen encroaching the hiatus semilunaris and the infundibulum of the left maxillary sinus. Superiorly few of the anterior ethmoidal septae appeared to be eroded. Inferiorly the mass was seen completely occluding the middle meatus (Fig1&2). The lamina papyracea was intact, maxillary, frontal and sphenoid sinuses were normal. There was no enlargement of the sphenopalatine foramen, or erosion of medial pterygoid plates. The imaging characteristics were

suggestive of benign etiology and in view of the location, enhancement pattern and extent of involvement a diagnosis of inverted papilloma was suggested.

Patient was subjected to lateral rhinotomy and the mass was removed en bloc; profuse postoperative epistaxis was controlled by nasal packing. HPE of the mass revealed that the tumour comprised an intricate mixture of blood vessels and fibrous stroma. The vessels were prominent and ranging in size from capillary to venous. Smaller vessels were lined by plump endothelial cells. The stroma consisted of dense collagenised tissue having stellate fibroblasts. The appearance was suggestive of angiofibroma (Fig 3).

Fig. 1 : CT axial section of PNS showing mass in (L) nasal cavity

Fig. 2 : CT coronal section of PNS showing (L) nasal cavity mass

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Fig. 3: Microphotograph showing fibroblasts and numerous blood vessels

Patient is under regular follow up and three months postoperatively he is asymptomatic, nasal and postnasal examination is normal.

Discussion

Angiofibromas are benign, biologically aggressive tumours. They originate almost exclusively from posterior nasal and nasopharyngeal regions in adolescent males, thus they are also known as juvenile angiofibromas. Angiofibromas usually present between 7 and 29 years of age with a mean age of around 14 years. Only isolated cases have been reported in older adults and in females [1].

A number of theories have been propounded over the years to explain the origin of angiofibromas. The fibroblastic theory suggests abnormal growth of embryonic occipital plate. Ringertz suggested that the tumours are from periosteum of nasopharyngeal vault while Brunner suggested origin from fascia basalis. Hormonal theories suggest oestrogen androgen imbalance as the cause.

Regarding the site of origin it was previously assumed that angiofibromas arose from vault of the nasopharynx or the choanae. Modern methods of investigations have focused attention on the sphenopalatine foramen as the site of origin, this most reasonably explains the subsequent spread of the tumour and also why the tumours often involute back towards this region [2]. Surprisingly, the tumour in the present case was found localized to the nasal cavity alone with no

involvement of the nasopharynx at all. In literature there have been very few reports of such unusual sites of presentation of angiofibromas. These usually refer to the oral cavity and maxillary sinus. Shah et al [3] have recently reported a case of an angiofibroma originating from the junction of bony and cartilaginous nasal septum where the tumour presented as a nasal polyp.

Angiofibromas can easily be differentiated from other nasopharyngeal tumours by their age of presentation, sex, symptoms and physical findings. The most common presenting symptoms are nasal obstruction and epistaxis, less commonly hearing loss, tinnitus, proptosis, diplopia and facial swelling may be the features. Clinically the tumour appears as reddish purple mass which fills the nasopharynx and then spreads anteriorly into the nose, downwards into the oropharynx and laterally into the pterygopalatine fossa. The colour may vary in the nose from pink to white. The part seen in the nasopharynx is covered by mucous membrane and is invariably pink whereas those seen in adjacent extrapharyngeal regions maybe white or grey [3].

In typical cases of angiofibromas radiological and angiographic investigations are sufficient to obviate need for pretreatment biopsy [4]. The vascular bush which occurs in the area occupied by the tumour is diagnostic but this was absent in the present case. Surgery is the treatment of choice for angiofibromas and radiotherapy is reserved for unresectable lesions. Cryotherapy, sclerotherapy and electrocoagulation are seldom employed except for small accessible recurrences. Androgens and oestrogen have been tried with variable results.

References

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