Original Article

COMMON PRESENTING SYMPTOMS DIAGNOSIS AND MANAGEMENT OF ANGIOFIBROMA - A study of twenty cases

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ABSTRACT

Objective: To determine common presenting symptoms, age, disease extent; and the efficacy of different surgical approaches in the diagnosis and treatment of Angiofibroma of nasopharynx.

Design: All prepubertal and adolescent patients presenting with nasal obstruction, recurrent epistaxis, denasal speech, conductive deafness and anaemic look, reporting to our dept for consultancy were evaluated.

Setting: Patients were diagnosed on the basis of history, clinical examination, and CT scan with contrast. Tumour excision was performed through lateral rhinotomy; lateral Rhinotomy plus Weber, Weber Fergusson and U-shaped trans palatal approaches.

Subjects: Twenty patients with suggestive history, clinical examination and CT scan findings were operated for excision of tumour.

Main Outcome Measures: CT scan with contrast was found most valuable investigation. Lateral rhinotomy incision was found useful for angiofibromas with extension into pterygopalatine fossa, and Weber-Fergusson approach for tumors occupying infratemporal fossa.

Results: All patients were male, mean age 17.25 years. 80% presented with epistaxis, 10% with denasal speech and conductive deafness. Tumour was excised through lateral rhinotomy 8 (40%), lateral Rhinotomy plus Weber in 4 (20%). Weber Fergusson 4(20%) and U-shaped trans palatal 4(20%). Tumor was limited to nasopharynx (4(29%), retromaxillary space 8(40%), into pterygopalatine fossa 6(30%), and infratemporal fossa 2 (10%). All tumors were excised completely.

Conclusion: Angiofibroma of nasopharynx should be suspected in young adolescent males presenting with epistaxis or denasal speech. CT scan with contrast is the key investigation and lateral rhinotomy alone or in combination with Weber is suitable for tumours of nose, nesopharynx or more widespread.

KEY WORDS: Angiofibroma, Epistaxis, Denasal speech.

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INTRODUCTION

Angiofibroma is a rare tumour and constitutes less than 0.05% of all those occurring in head and neck[1] but is the common tumour of nasopharynx. Some researchers reported 1 in 5000 incidence of otorhinolaryngology admissions[2]. The term angiofibroma was coined by Friedberg[3]. It is suggested that angiofibroma is similar to most haemangiomas by nature and is likely a vascular hamartoma[4]. It has a tendency to grow and extend along the foramina and fissures. It does not invade dura mater, leaving a useful cleavage plane for surgeons[5].

Investigations are employed mainly to confirm the diagnosis, to determine the extent of the tumour and to choose the treatment modality. Plain lateral radiographs demonstrate a variable sized nasopharygeal mass causing anterior bowing of the posterior wall of the maxillary antrum. Although it is considered pathognomonic for angiofibroma but may be mimicked by other slow growing non invasive tumours involving this region[6]. Anterior bowing sign is positive in 81% of patients[7]. CT scan with contrast is of extreme value in assessing the extent of the tumour. The diagnosis by CT is based upon the site of origin of the lesion in pterygopalatine fossa. There are two constant features i.e. 1 – a mass in posterior nasal cavity and pterygopalatine fossa 2 - erosion of bone behind the sphenopalatine foramen with extension to the upper medial pterygoid plate.

The introduction of CT scanning has to a large extent preempted the routine use of arteriography, but useful information is obtained from arteriograms on the size and extent of the lesion, and the size and location of feeding vessels, some of which arise from unusual sources as the internal carotid and vertebral arteries[8]. Generally arteriography is not used routinely, as it is not readily available, requires skill and carries high complication rate. Biopsy is generally contraindicated due to risk of uncontrollable haemorrhage.

We conducted this study with the aim to determine the presenting symptoms, disease extent and then to determine the efficacy of different surgical approaches.

PATIENTS AND METHODS

From Jan 1998 to Dec 2000, we included those prepubertal and adolescent patients who presented with nasal obstruction, recurrent epistaxis, denasal speech, conductive deafness and anaemic look, in this prospective study.

Patients were diagnosed on the basis of history and clinical examination. Diagnosis was confirmed by CT scan with contrast and by the histophathological report of the resected tumour specimen.

Patients with intracranial extension of the tumour, patients with recurrent tumours and patients treated elsewhere were excluded from the analysis. The medical records of the patients were evaluated and a statistical assessment of the data was performed. The data included age, presenting features, preoperative findings, site of origin, type of incision, amount of blood transfused, stay in hospital and complications. All the tumours were excised surgically using various surgical approaches and were confirmed on histopathology.

RESULTS

Eight thousand patients with complaints of nasal obstruction, recurrent epistaxis and anaemic look, from Jan 1998 to Dec 2000 were received; out of which 20 patients were included in the study. All were male with age range from 5 to 24 years, with mean age 17.25 years. The presenting symptoms in 90% of patients were nasal obstruction, recurrent epistaxis and anaemic look. About 10% presented with denasal speech and conductive deafness. All the tumours were excised in toto. Surgical approaches employed are shown in table-I. Lateral rhinotomy incision was used for 8 (40%) cases. In 4 (20%) cases lateral rhinotomy was combined with Weber's incision. In 4 (20%) cases Weber Fergusson approach was used. We used U shaped tranpalatal approach for 4 (20%) cases.

Tumour was limited to the nasopharynx in 4 (20%) cases. Tumour was just spilling into the retromaxillary space in 8 (40%) cases and extended to pterygopatlatine fossa in 6 (30%) cases. In 2 (10%) cases it reached the infratemporal fossa. In 12 (60%) cases tumour was from right side and in 8 (40%) cases was from left side. Extent of tumour is summarized in table-II. The average perioperative blood trans-

Table-I: Surgical approaches used

Approaches	*No. of cases*
Lateral Rhinotomy	8
Lat. Rhino. + Weber	4
Weber Fergusson	4
U-shaped trans palatal	4

fusion was 3.8 pints as shown in table-III. The means age was 17.25 years. Average stay in hospital was 6.9 days as shown in table-IV. CT scan with contrast was found the most informative and reliable investigation for assessment of tumour size, site and extension.

No complication was seen in the perioperative period. Only two (10%) patients reported after 5 months with recurrence. One recurrence was noted in a patient with ongiofibroma extending into pterygopalatine fossa, in which Weber Fergusan approach was used. Second case of recurrence occurred in a patient with angiofibroma just spilling into retromaxillary space. Lateral rhinotomy approach was used in this case. Revision surgery was performed in those two cases.

Table-II: Extent of the tumour

Extension of Tumour	*No. of cases*
Limited to Nasopharynx	4
Extending into post wall of max antrum	8
Extending into pterygopalatine fossa	6
Extending into infratemporal fossa	2

Table-III: Perioperative blood transfusion

Blood transfusions	*No. of cases*
1 – unit	4
4 – unit	8
5 – unit	8

Table-VI: Postoperative hospital stay duration

Duration of hospital stay	*No. of cases*
5 – days	4
6 – days	4
8 – days	4
9 – days	8

DISCUSSION

Angiofibroma is the most frequent benign tumour of nasopharynx in young males. The mean age at presentation is 14 years given by Harison DFN[9]. The entire patients in our series were males and the mean age at presentation was 17.25 years which is at par with most published studies[10-11]. The triad of nasal obstruction recurrent epistaxis and mass nasopharynx in an adolescent male should be investigated seriously because it might be angiofibroma which requires early treatment. In our study every patient presented with nasal obstruction and recurrent epistaxis. In most nasopharyngeal mass was observed clinically.

Generally investigations are employed to confirm the diagnosis, determine the extent of the tumour and help plan for suitable mode of treatment. CT scan with contrast is very informative. We employed this investigation in every case to determine exact site, size and extension of the lesion into the surrounding regions. Biopsy of the lesion was not carried out in any case because its need is obviated by the use of radiological investigaions. The introduction of CT scanning with enhancement and MRI has to a large extent pre-empted the routine use of arteriography[12]. Although various modalities of treatment are available for this disease, such as hormonal therapy, radio therapy and embolization but the mainstay of treatment is surgery due to its safety and radical clearance of the disease. We treated all our patients under study, surgically. The patients with intracranial extension of disease and patients with recurrent disease were excluded from the study. 100% cure rate has been claimed by Jafec[13] and 79% by Brajendra and SK Kockerk[14] employing surgery. Our cure rate is 90%.

We used lateral rhinotomy incision in 8 (40%) cases. We found this approach very useful to deliver the angiofibroma with extension into the pterygopalatine fossa. Stell and Maran[15] advocate that the use of lateral rhinotomy approach is better for direct and easy access. For larger tumours occupying

infratermporal fossa, Weber Fergusson[16] or facial degloving is usually advocated[17]. We employed this approach in 4 (20%) cases. Our experience is that lateral rhinotomy with medial maxillectomy is sufficient for complete removal of the angiofibroma without intracranial extension.

The recurrence rate varies with different series e.g. 50% with Conley and Williams[18]. Two (2%) percent with Chatter Jee and Soni[19], and 6.1% in I.H Jaffery and S.H Zaidi[20] series. In our series it is 10%.

CONCLUSION

Angrofibroma is a particularly important disease in otolaryngological practice. The prognosis for this disease is extremely good if diagnosed well in time and if tumour has not extended intracranially.

Once the disease is diagnosed and its size and extent is outlined then the key to complete cure is good exposure and removal of tumour in toto. Lateral rhinotomy approach alone or in combination with Weber is very suitable for tumours confined to nose and nasopharynx and also for more extensive spread. We also recommend that radiotherapy should be considered for intracranial spread or recurrent tumours. Regular follow up is mandatory to detect any recurrence well in time. For this a radiological work up is recommended after four months of surgery.

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