Case Report

Pre-operative Embolisation of Juvenile Nasopharyngeal Angiofibroma

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ABSTRACT

We report a case of juvenile nasopharyngeal angiofibroma in a 15year old male patient. CT PNS was done which was suggestive of juvenile nasopharyngeal angiofibroma. Subsequently preoperative embolisation of the feeding vessel was done to make the surgery bloodless.

INTRODUCTION

Juvenile nasopharyngeal angiofibroma is an uncommon, benign and extremely vascular tumour that arises in the tissues within the sphenopalatine foramen. Rarely it is found at other sites in the nasal cavity and paranasal sinuses. Juvenile angiofibroma accounts for less than 0.05 percent of all head and neck tumours. It is commonly seen in prepubertal and adolescent males [1]

CASE REPORT

- A fifteen year old male patient presented with symptoms of on and off epistaxis, nasal obstruction and headache.

Fig.-1: Ct Axial Post Contrast Image.

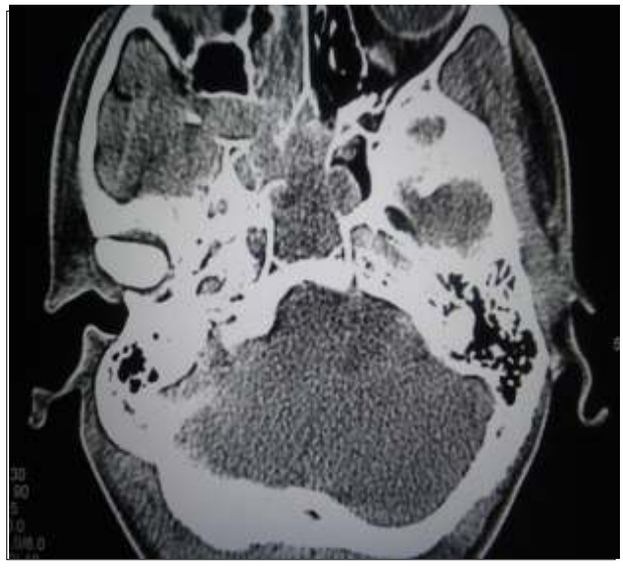

Fig -2 :ct Axial Post Contrast Image.

- CT PNS-Including nasopharynx (axial and coronal) plain and contrast study was done which showed a large enhancing polypoid mass lesion measuring 5x3.4x4.3cms in the right side of nasopharynx. The mass was extending anteriorly and superiorly to the maxillary sinus. Above features were suggestive of nasopharyngeal angiofibroma. (Fig - 1& 2)

- Pre-operative embolisation of the feeding vessel was planned to reduce per-operative blood loss. Transcatheter particulate embolisation with a 4 french head hunter catheter using polyvinyl alcohol particles (150microns) via transfemoral route by sheldinger's technique was done. Post

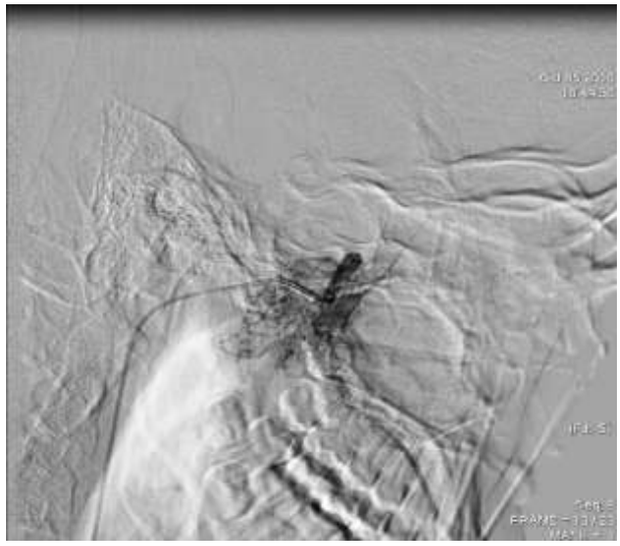

Fig.-3 : Catheter is at the Right Internal Maxillary Artery, the Tumour Shows Blush.

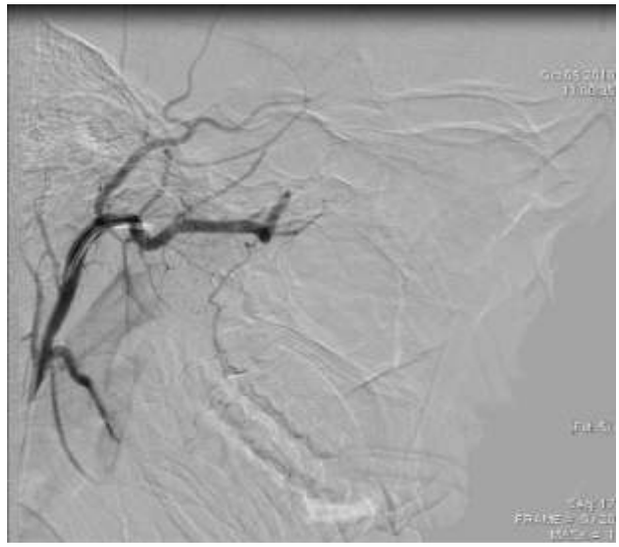

Fig-5 : Total absence of Tumour Blush and Patency of other branches seen at the end of the procedure.

Fig-4 : Injection of PVA particles was started, hence the Tumour shows reduction in Blush.

Interventional images showed absence of tumour blush which was evident prior to the Interventional procedure showing complete embolisation of the branch of right internal maxillary artery which in this case was the feeding vessel (Fig - 3,4,5)

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- The objective of the interventional procedure always is to achieve target embolisation and main trunk's patency should always be confirmed at the end of the procedure to avoid untoward consequences. Surgery was done 24 hours post interventional procedure. Per-operatively the mass appeared blanched, firm and smaller than originally seen on nasoendoscopy and nasopharyngoscopy and CT pre-operatively. (Fig - 6)

- The bleeding was minimal during surgery. No blood transfusion was required. The patient was discharged on 8th post-operative day.

- Gross specimen (Fig - 7) consisted of single polypoid like gray white soft tissue mass measuring 3.5x2x1.8cms. External surface was smooth and well circumscribed. H & E section studied showed features of nasopharyngeal angiofibroma.

DISCUSSION

Onset of juvenile nasopharyngeal angiofibroma is most commonly seen in second decade, ranging from 7-19years.Patients present with nasal obstruction, epistaxis, headache and rarely facial swelling, rhinorrhoea etc. Signs include Nasal mass (80%), Orbital mass (15%) Proptosis (10-15%) Other signs include serous otitis due to

eustachian tube blockage, zygomatic swelling, and trismus that denote spread of the tumour to the infratemporal fossa, decreasing vision due to optic nerve tenting (rare)

Pre-operative embolisation of the feeding vessel was the need of the day. Embolisation of the feeding vessel makes the tumour smaller due to reduction in blood supply and hence the surgery and surgical field bloodless.

The primary modality of treatment is surgery. However surgery of a vascular lesion such as juvenile angiofibroma in an inaccessible area such as the nasopharynx is frought with complications in a bloody field. Pre-operative embolisation could make a dramatic difference to the surgeon. However complications like acute hemorrhage and non target embolisation can occur.[2,3]

MRI is excellent at evaluating tumour extension into the orbit and intracranial extension. Post contrast T1W images show prominent enhancement.

Differential diagnosis like nasal polyps, angiomatous polyp, nasopharyngeal carcinoma, nasopharyngeal teratoma, lymphangioma, encephalocoele and dermoid should be ruled out.

Comparative genomic hybridization analysis of these tumors revealed deletions of chromosome 17, including regions for the tumor suppressor gene ***p53*** as well as the ***Her-2/neu*** oncogene. Recent immunocytochemical techniques have been used to show that androgen receptors are present in at least 75 percent of tumours.

Pre-operative embolisation is infact a boon to the patient and to the operating surgeon.

Fig.-6 : The Angiofibroma was removed through transpalatal approach.

Fig-7 : The Specimen Post Surgery appears blanched.

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