# TRANSPALATAL APPROACH- A COSMETICALLY ACCEPTABLE ROUTE FOR REMOVAL OF SMALL JUVENILE NASOPHARYNGEAL ANGIOFIBROMA

**Zeeshan Ayub, ZM Rahat*, Bashir Ahmed****

HQ Khyber Rifles Landi kotal, *CMH Lahore, **CMH Rawalpindi

## ABSTRACT

***Objective:*** To determine frequency of employment of transpalatal route for a cosmetically acceptable outcome in surgically addressing small juvenile nasopharyngeal angiofibroma.

***Study Design:*** Descriptive Study

***Place and Duration:*** Joint Venture of Department of ENT and Head & Neck surgery Combined Military Hospital Rawalpindi and Department of ENT and Head & Neck surgery Combined Military Hospital Lahore from January 2005- January 2008.

***Patients and Methods:*** Patients age less than 18 years with small juvenile nasopharyngeal angiofibroma (Radkowskis Stage I) were included in the study. These patients were managed surgically.

***Results:*** There were a total of Twenty Four cases included in this study nine (37.5%) were managed by transpalatal route. Four patients had stage Ia and five had Stage Ib disease. Patients were studied in terms of facial appearance six months post operatively. None of the patients showed any facial deformity.

***Conclusion:*** Transpalatal route is novel approach to cosmetically deal with small juvenile nasopharyngeal angiofibroma.

**Keywords:** Juvenile Nasopharyngeal angiofibroma, transpalatal route, Palatal fistula.

## INTRODUCTION

Juvenile Nasopharyngeal Angiofibroma is the commonest benign tumour of the nasopharynx in adolescent males[1]. But it constitutes less than 0.05% of all those occurring in head and neck[2]. Few if ever are found at extra nasopharyngeal sites[3,4]. Recently an elderly female suffering from Nasopharyngeal Angiofibroma was successfully treated surgically[5].

There are various staging criteria for evaluating Juvenile Nasopharyngeal Angiofibroma which include those developed by Radkowski, Fisch, Andrews, and Sessions6. The Radkowski criterion, introduced in 1996 is the most recent of the staging system. Staging is used to predict disease outcome and select the appropriate surgical approach.

There are many approaches for the removal of Juvenile Nasopharyngeal Angiofibroma which include transfacial, and combined craniofacial approaches (more specifically transpalatal, transantral, transnasal, lateral rhinotomy, midfacial degloving, LeFort 1 osteotomy, and infratemporal fossa approaches). With the exception of Transpalatal route all the approaches have the disadvantage of a facial scar[1,2].

**Objective of the Study:** To review the indications of abdominal hysterectomy for benign gynaecological conditions in a tertiary care hospital in Wah Cantt, Pakistan.

## PATIENTS AND METHODS

This descriptive study was carried out as a descriptive case series in Department of ENT & head and Neck surgery Combined Military Hospital Rawalpindi and Combined Military Hospital Lahore from January 2005 to January 2008.

There were a total of twenty four cases of Juvenile Nasopharyngeal Angiofibroma that presented to ENT OPD of both centers from January 2005 to January 2008.All twenty four cases were included in this study. The patients were assessed by flexible nasoendoscope and CT scan, and staged according to Radkowskis criteria. All twenty four patients were managed with surgical resection with transpalatal route used in nine (Radkowskis Ia & Ib).

**Correspondence:** Major Zeeshan Ayub, Khyber Rifles Hospital, HQ Khyber Rifles Landi Kotal
Email: zeeshan_ent@yahoo.com
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Patients were followed up and observed in terms of following complications: 1. Facial scar, 2. Facial paresthesias, 3. Persistent epiphora, 4. Palatal fistula.

## RESULTS

Twenty four patients were included in the study, all were male aged between 10 and 18 years. Mean age was 15 (SD= 3.2). All the patients required intraoperative blood transfusions and post operative antibiotics. There post operative recovery was uneventful.

Nine (37.5%) patients were managed by transpalatal route the ages varied from 13 to 17 years. Mean time of presentation of symptoms was less than two months. Radiologically 4 patients had stage Ia and 5 patients had Stage Ib disease. Excision by transpalatal route was complete.

None of the patients had palatal fistula. Three of the patients in the lateral rhinotomy group had epiphora and two patients had numbness in the cheek. All patients of other surgical routes had a visible facial scar six months post operatively (Table).

## DISCUSSION

Surgery is the mainstay of treatment for Juvenile Nasopharyngeal Angiofibroma. The approach is determined by two factors i.e extent of tumour and surgical expertise. Surgery of Juvenile Nasopharyngeal Angiofibroma must take into account the pattern of facial growth in a young male. Craniofacial skeleton continues to grow till the age of 20 years in males. Growth restriction of facial skeleton can occur due to elevation of soft tissues from the facial bones, dissection of mucoperiosteum, ethmoidectomies and use of metal plate fixation[2,7,8].

Small tumours i.e stage Ia and Ib which are limited to the nasopharynx can be accessed through a transpalatal route and resected comfortably without leaving any tumour behind[9,10,11]. With larger tumours extending to multiple sites, cosmesis must be sacrificed for disease clearance as transpalatal route gives limited lateral exposure[12,13].

In a review of literature performed by Mendenhall et al complications with lateral rhinotomy approach were facial scarring, paresthesias and epiphora were 100%, 11% and 9 % respectively at Hôpital Lariboisière between 1985 and 1996 in a total of 44 patients[14].

In a study by Deschler et al at the University of California in San Francisco between 1980 and 1991 of 18 patients reported a rate of facial scarring, and paresthesias at 100% and 5% respectively[15] with lateral rhinotomy approach.

Bremer et al reported the following complications in 30 patients who underwent surgery at the Mayo Clinic in the USA between1972 and 1983: nasolacrimal duct stenosis (4 patients),haemorrhage (3 patients), exotropia (1 patient), mild proptosis (1 patient), and cheek numbness (1 patient)[16].

Mann et al in a review of surgical techniques over 20 years found transpalatal route to be an adequate route for resection of tumours limited to nasopharynx. For larger tumours this approach was not found to be satisfactory[17].

In our study we found that clearance of a small mass limited to nasopharynx through transpalatal route is feasible in terms of tumour clearance and cosmesis. The trend world over is to use endoscopic approach[18,19,20] even for larger tumours which is only possible in few centers of Pakistan, because poor socio economic conditions does not allow most centers to have the requisite equipment and many of the patients cannot afford it. Although it is the best option available but lack of equipment and surgical expertise makes it difficult to be used in Pakistan.

## CONCLUSION

Transpalatal route is novel approach to cosmetically deal with small juvenile nasopharyngeal angiofibroma limited to nasopharynx. It allows adequate access of nasopharynx with few complications like odynophagia.

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## Table: Outcome of surgery

| | Palatal fistula | Paresthesias of Cheek | Facial scarring | Epiphora |
|---|---|---|---|---|
| Traspalatal Rout (6 Patients) | 0 | 0 | 0 | 0 |
| Lateral Rhinotomy (15 Patiemts) | 0 | 2 (13.3%) | 15 (100%) | 3 (20%) |