

# Advantages of Endoscopic Procedures in Juvenile Nasopharyngeal Angiofibroma: Current Strategies in Management of Naso-Sinus Neoplasms

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## Short Communication

**Abstract:** With endoscopic techniques there is a significant change in strategies of management of naso-sinus neoplasms. Almost every neoplasm in naso sinus region and adjacent anatomical region is accessible through naso-sinus endoscopes. The endoscope inbuilt light and excellent visualisation often allows for complete excision. The advantage of endoscopic sino nasal surgeries has compelled the ENT. Fraternity to replace previous open techniques with endoscopic intervention both for diagnostic & therapeutic purposes.

### Introduction

Since last 15 years the endoscopic procedures have replaced the traditional open techniques in management of inflammatory sinonasal diseases. The endoscopic techniques with individual surgeons expertise have been applied for access and treatment of adjoining anatomical spaces of paranasal sinuses like excision of pituitary tumours, access & surgical management of orbital fossa, pterygo palatine fossa, infratemporal.<sup>1-5</sup> Endoscopic surgical management is popularly accepted for excision of benign and often malignant lesions of the sinonasal space since there is advantage of magnification of the area under operation & less morbidity there is a wide literature available suggesting the better results with endoscopic techniques as compared to open technique.<sup>6</sup> In this paper a review of the management of juvenile nasopharyngeal angiofibroma is done for most of the literature focuses on endoscopic tumour removal.<sup>7</sup>

### Juvenile nasopharyngeal angiofibromas

Juvenile nasopharyngeal angiofibromas (JNA) are the tumours of vascular origin which are commonly seen in sphenopalatine foramen, pterygopalatine fossa.<sup>8</sup> These are seen only in pubertal males. These tumours can spread to involve posterior choane, parapharyngeal space, paranasal sinuses, infratemporal fossa, orbit, middle cranial fossa. Open techniques were widely used through weber fergusson incision, lateral rhinotomy by way of trans palatal approaches to surgically excise JNA.<sup>9</sup> A the personal experience of self while managing JNA by open technique in a series of 25 cases shows open approach gives extensive morbidity, tissue loss and disfigurement to the patient. In comparison the endoscopic surgical excision has considerable lesser morbidity. There is great safety if

we perform preoperative embolisation of the feeding vessel to lessen the amount of bleeding which is a cause of discomfort while dealing vascular tumours by way of endoscopic surgery.<sup>9-10</sup> The availability of bipolar forceps and endoscopic clips in endoscopic surgical procedures for haemostasis has made tumour removal much easier. The radiography, computerised tomography easily confirms the diagnosis of JNA, and the biopsy is contraindicated due to its bleeding tendency. The MRI, and in smaller lesion only CT scan provide enough information for the proper endoscopic approaches for management of JNA.

### Surgical Techniques

Maxillary antrastomy, sphenoidectomy and ethmoidectomy are the routes of better surgical accesses to remove the tumour of JNA in Toto or to debulk the tumour mass from nasopharyngeal nasal cavity. The pterygopalatine fossa is accessible by removal of posterior wall of maxilla by bone punches and drilling the posterior wall. In this anatomical region the tortuous maxillary artery can be ligated by using vascular clips endoscopically. Blunt dissection is helpful in separating the tumour from surrounding tissues.<sup>9</sup> The spared of tumour mass into the orbit, pituitary fossa are the contraindication as suggested by some for endoscopic removal of JNA.<sup>11</sup> Some have concluded that there are obvious complications and problems while undertaking open approach excision.<sup>9</sup> There is considerable literature showing endoscopy with magnification provides good visualisation than open method.<sup>10</sup>

### Follow Up Results of Endoscopic Surgery

Pryor performed open surgical excision of JNA from 2001 (ref 12). More than 50 patients were treated with open technique. 6 patients were taken for endoscopic surgical removal of JNA. The comparative study reveals that there is less recurrence of the tumour mass endoscopically removed as compared to open removal of the JNA. There is less morbidity with endoscopic surgery. Nicolai in review of his literature with endoscopic resection in 15 patients of JNA (ref 8) shows only one case of recurrence. All the patients had undergone preoperative embolisation; the most of

patients were having minimal involvement of infratemporal fossa. Many authors suggest that extension into intra cranial structures be considered as an absolute contraindication of endoscopic removal of JNA; but unless the infiltration in to the dura, meninges is not confirmed the endoscopic intervention is one good intervention.

### Conclusion

The endoscopic techniques in management of tumors in nasal , para nasal areas and beyond them in adjoining anatomical structures has been popularly by accepted modality for surgical excision of papillomas, JNA and even oncological tumours. The comparatively less morbidity and less recurrence has made this method acceptable and of value.

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