ENDOSCOPIC EXCISION OF ANGIOFIBROMA

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ABSTRACT : *We present a case of Juvenile Nasopharyngeal Angiofibroma (JNA) managed by endoscopic excision alone. The selection of the case, technical difficulties and the advantages offered by this technique are detailed.*

INTRODUCTION

JNA is a benign neoplasm of the nasopharynx affecting primarily adolescent males. Its propensity to bleed torrentially due to its highly vascular nature and its ability to spread along the base of skull and intracranially, makes it clinically a rather feared entity. Surgery is the preferred mode of treatment, radiation being reserved for unresectable intracranial tumors (Ungkanont K et al 1996). The various surgical approaches that have been tried e.g. transpalatal, lateral rhinotomy, Weber Fergusson, midfacial degloving and the trans-zygomatic infratemporal approach reflect clearly the technical difficulty in completely excising all tumor extensions.

CASE REPORT

A 15-yr-old boy came with history of epistaxis and blocking of the nose since 6 months. Clinical examination revealed a mass in the nasopharynx and the right posterior choana. A CT Scan was done which showed an enhancing mass in the nasopharynx and in both choanae with widening of the sphenopalatine foramen and involvement of the infratemporal fossa medially (Fig. I & II). A preoperative carotid angiography was done to

Fig I: Axial preoperative CT Scan showing an enhancing mass in the nose and nasopharynx.

Fig II: Axial preoperative CT Scan showing the mass involving the pterygopalatine and infratemporal fossa.

Fig III: ECA Embolisation plate – preembolisation showing tumor blush.

delineate the feeder vessels, which were then embolised with gel foam. Complete disappearance of the tumor blush indicated good devascularisation of the tumor (Fig III & IV).

The patient was taken up for endoscopic excision after 48 hours. The tumor was excised completely endoscopically using 0°, 30° and 70° endoscopes (Fig V). A good bipolar cautery, upward and straight biting forceps and periosteal dissectors of various sizes were also required. The tumor was delivered transorally.

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Fig IV: Post embolisation plate showing disappearance of tumor blush.

Fig V: Excised specimen of JNA showing sphenoid and infratemporal extensions.

Fig VI: Line diagram showing exposure of tumor laterally by removing medial and posterior maxillary sinus walls.

Fig VII: CT Scan taken 6 months after surgery showing a clear nasopharynx and complete clearance of infratemporal fossa.

RESULTS

Our results in this case were very gratifying. The total intraoperative blood loss in this case was 200cc. The patient required no blood transfusion. Since the operative field was bloodless, after complete tumor excision, no anterior or posterior nasal packing was required. The raw area was covered with antibiotic soaked gel foam alone. The patient was monitored closely in the intensive care unit for 24 hours following surgery. His postoperative course was uneventful. Histopathology confirmed the diagnosis of angiofibroma. He has remained free of recurrence 6 months postoperatively (Fig VII)

DISCUSSION

With the evolution of endoscopic surgery, better instrumentation and greater experience in the field, it is now possible to view endoscopic excision of angiofibroma as a viable alternative to open surgery.

There are two major difficulties that need to be effectively solved before endoscopic excision is possible. First, the bleeding has to be kept to the minimum to allow proper visualization. This is ensured by preoperative embolisation (Tranbahuy P et al, 1994). visualizing the attachments of the tumor, cauterizing them with bipolar diathermy and

then finally dissecting them subperiosteally with a periosteal elevator under direct vision. The sequence of visualization, bipolar cauterization, and subperiosteal dissection has to be meticulously and patiently repeated till all tumor attachments have been dissected off and the entire tumor is completely free from the surrounding tissues.

The second difficulty is in being able to visualize all the tumor extensions detected on CT Scan (Lloyd DM et al 1999) even with angled telescopes. It may be necessary to remove part of the middle turbinate, the medial and posterior wall of the maxillary sinus and other similar bony partitions so as to release the bottlenecking of the tumor and visualize it completely (Fig VI).

The most significant advantage of this technique is that it allows meticulous dissection of the tumor under direct vision in the subperiosteal plane. This minimizes bleeding making it possible to visualize all tumor extensions aim remove them completely. With this technique, we therefore hope to see a decrease in the recurrence rate (Herman P et al 1999). There is also a significant decrease in the postoperative morbidity as the patient requires no nasal packing and is able to breathe, eat, and talk freely within hours of surgery. The absence of any facial scar is also a major advantage in young adolescent males.

CONCLUSIONS

Even as the results of excision of JNA in this initial case were highly gratifying, the true advantages, benefits and limitations of this approach are becoming clear only as we continue to do more cases endoscopically.

We hope to see a significantly decreased patient morbidity and a decrease in recurrence rates after auditing a greater number of cases.

However this initial case does indicate that endoscopic excision of JNA could be a viable, more precise and better alternative to open surgery in selected tumors.

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