PEROPERATIVE MAXILLARY ARTERY LIGATION A MEASURE TO REDUCE BLEEDING IN ENDOSCOPIC RESECTION OF JUVENILE ANGIOFIBROMA

Umar Aasim, Ayyub Waqas, Anwaar ul haq, Shujaat Abbas

Combined Military Hospital Kharian

INTRODUCTION

Juvenile nasopharyngeal angiofibroma is a rare vascular tumor almost exclusive to the nasopharynx of adolescent males. Young females given this diagnosis should undergo chromosomal studies or should have the diagnosis questioned. Incidence of JNA is 1 case per 5000-60,000 ear, nose, and throat patients and accounts for 0.5% of all head and neck tumors. The wide range of reported cases may stem from misdiagnosis and inclusion of other lesions. Incidence is reported to be higher in Egypt and India.

It often acts in a malignant manner by eroding into the surrounding sinuses, orbit, or cranial vault. Traditionally, juvenile nasopharyngeal angiofibroma has been treated surgically using open surgical approaches and has been associated with frustratingly high blood loss and recurrence rates. Presently the endoscopic surgery is employed more commonly with preoperative embolisation. This article reviews ligation of maxillary artery a simple measure to reduce the blood loss during the surgery.

CASE REPORT

A young man 28 yrs of age presented to ENT department with 2 weeks history of recurrent, spontaneous, profuse epistaxis. It was associated with left sided nasal obstruction that was partial initially and became complete later on. There was no history of headache, nasal discharge or visual symptoms. Anterior rhinoscopy revealed a pinkish mass in the posterior aspect of nasal cavity that was also visible on posterior rhinoscopy. X-ray PNS revealed haziness left maxillary sinus. CT scan PNS 3mm sections axial and coronal studies revealed a soft tissue attenuation mass in the nasal cavity extending into the nasopharynx. It showed post contrast enhancement. There was no widening of pterygomaxillary fossa or extension into the sphenoid / maxillay / ethmoid sinuses, infratemporal, orbital or cranial cavity. It was graded as stage I tumor according to Andrews classification. Endoscopic resection under hypotensive general anesthesia was considered. Preoperative maxillary artery ligation was planned as endoscopic resection needs a more clear field to work. Four pints of blood was arranged. Maxillary artery was ligated through the CaldWel approach as it couldn't be accessed via middle meatal antrostomy. Growth was excised endoscopically through the nose. The blood loss during the surgery was less than 250 ml. Post operative recovery was smooth. Nasal packs were removed after 48 hrs. Patient recovered smoothly and he is on regular follow up for last 3 months.

DISCUSSION

During the last 12 years, there has been a marked shift toward endoscopic procedures for resection of nasal tumors. Angiofibromas may thus be managed successfully using less invasive techniques, thereby reducing morbidity, without increasing the chance of recurrence[1].

Endoscopic nasal approach has advantage of less hemorrhage and no disruption in facial skeleton[2]. However there may be limited working angle and surgical struggle associated with the use of the transnasal approach alone. Endoscopic assisted antral window approach provides a safe, reliable, and effective technique in management of type I-III tumors[3]. This combined transmaxillary and transnasal approach provides excellent exposure[4]. With proper patient selection, endoscopic resection of juvenile nasopharyngeal angiofibroma is feasible and may be preferable to traditional open approaches. Results suggest that after endonasal resection, disease recurrence is low. However larger lesions, especially those with

Correspondence: Lt Col Muhammad Umar Asim, ENT Specialist, Combined Military Hospital Bahawalpur

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intracranial spread, continue to require open approaches for complete resection[5].

Excessive bleeding during the surgery is a known problem. This can be reduced by preoperative embolisation or arterial ligation. Ligation of the maxillary artery is a logical method for the arrest of severe uncontrollable posterior epistaxis. The same can be used in angiofibroma surgery. The failure rates for arrest of haemorrhage are given in the literature as 10-13%. Bilateral maxillary artery ligation was carried out whenever the maxillary artery of the bleeding side was found to be of small diameter[6]. Some authors advocate transantral ligation or percutaneous embolization as the procedure of choice for preoperative hemorrhage. Comparison of efficacy and cost reveals that they are comparable procedures with specific strengths and weaknesses[7]. We conclude that the choice of treatment modality should be based on the availability / benefits of each procedure as it pertains to the specific needs of the individual patient[8].

CONCLUSION

Although preoperative arterial embolisation has been mentioned more commonly, maxillary artery ligation can be an important step in the management of JNA. Blood loss is minimized and the resection is also done easily. Bilateral maxillary artery ligation can be a choice in larger tumors or when the size of the artery is found to be smaller than usual.

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CORRIGENDUM

The name of the first co-author Brig Maqsood Ul Hassan,4 was omitted due to a typing error in the article titled "**PATTERN OF TOY BOMB INJURIES IN AZAD JAMMU & KASHMIR (A HOSPITAL BASED STUDY)**", published in PAFMJ 2007; 57 (2), 100-103. The exact authorship is now, Gondal ZA, Khan IA, Hassan MU, Qureshi SM, Rehman BU, Ahmad I, Pattern of toy bomb injuries in azad jammu & kashmir (a hospital based study). PAFMJ 2007; 57 (2), 100-103.