Extended anterior nasal packing in juvenile nasopharyngeal angiofibroma

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Abstract This is the case study of 16 patients in which postoperatively after complete removal of tumors, the bleeding did not stop with anterior and posterior nasal packing. In all those cases extended anterior nasal pack was applied during the surgery after the complete removal of tumor and bleeding stopped effectively.

Keywords Juvenile nasopharyngeal angiofibroma · Anterior nasal packing

Introduction

Juvenile nasopharyngeal angiofibroma (JNA) is uncommon rare benign vascular tumor occurring in almost exclusively in adolescent males. Although it is benign tumor but it is locally aggressive and spread by expansion rather than invasion, thus eroding the adjacent bones and grows to the natural ostium and foramina [1]. The large tumors are quite often bilobed or dumbbell shaped, one portion is in nasopharynx while other portion extends to pterygoid palatine fossa. Angiography helps to demarcate the blood supply of tumors and to identify the feeding vessels, but its real utility is questionable. Nong et al. in their study of 45 cases, found that preoperative ligation of external carotid artery and embolization of feeding arteries of tumor does not reduce the intraoperative bleeding [2]. Surgical excision has been the main choice of treatment for JNA.

One of the most difficult part after removal of JNA is to control bleeding effectively from the site of its origin, i.e. at nasopharynx after its removal. In spite of packing the adequate size of posterior nasal pack, bleeding continues from the nasopharynx, as there is always space left behind between conchae and posterior pack bulb. And however hard one pushes posterior nasal bulb deep to nasopharynx, the posterior end of nasal septum prevents posterior pack bulb to go upward and interferes in tight packing thus bleeding continues.

Materials and methods

This is the case study of 16 patients in which postoperatively after complete removal of tumors, the bleeding did not stop with anterior and posterior nasal packing. In all those cases extended anterior nasal pack was applied during the surgery

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after the complete removal of tumor and bleeding stopped effectively.

Packing technique

After placing the posterior pack bulla at nasopharynx, the anterior nasal packing is done but the adequate length of posterior end of anterior nasal pack is taken out from the choanae through trans-palatine incision and packing is done between the space of choanae and posterior pack bulla through the trans-palatine opening incision systematically layer by layer (Fig. 1). After wards the routine anterior

Fig. 1 Picture showing extended anterior nasal pack

nasal packing is done as in usual pattern. This effectively pack the unpack space and bleeding is stopped, after ward transpalatine incision is closed.

Discussion

The mean blood loss in JNA removal is around 5,000 ml. However the blood loss is said to be less in preoperative embolization [3]. Low grade tumor which has less vascularity, the preoperative embolization is not very useful. The facilities of preoperative embolization is not necessary

available in all center. The intra-operative embolization in form of temporary ligation of external carotid artery can also be very effective for reducing the blood loss and may be useful substitute in high grade tumor where there is large amount of vascularity and the facilities for radiological embolization is not available. Radiofrequency induced thermotherapy by means of coagulation of angiofibroma vessels is also effective method for the less blood loss [4].

The endoscopic removal of JNA which is gaining popularity in nowadays is also causes less blood loss during surgery, but it requires mandatory embolization of feeding vessels. However in all those center where such modalities are not available the extended nasal packing becomes effective to control the bleeding specially in immediate postoperative period where some amount of tickling continues. The tumor stage influences the intraoperative bleeding. Although angiography helps to demarcate the blood vessels and identification of feeding vessels but it was not done in any of our cases.

Conclusion

Preoperatively embolization or temporary ligation of external carotid artery during the surgery may effectively reduce the intraoperative bleeding but extended anterior nasal pack is also effective procedure to control the bleeding during the surgery after the complete removal of tumor where some amount of tickling continues.

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