Published in final edited form as:

J Craniofac Surg. 2013 May ; 24(3): e207–e209. doi:10.1097/SCS.0b013e318268cf2e.

A Giant Juvenile Nasopharyngeal Angiofibroma

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Abstract

Juvenile nasopharyngeal angiofibroma (JNA) are locally growing highly vascular tumours. They are treated primarily by surgical excision ranging from open approach to endoscopic approach. We presented a 20-year-old male with a giant nasopharyngeal juvenile angiofibroma obliterating the pterygopalatine fossa bilaterally, invading the sphenoid bone and extending to the left nasal passage. His complaints were epistaxis and nasal obstruction. After embolization, the patient was treated surgically with endoscopic approach and discharged as cured without any complication.

Keywords

Juvenile nasopharyngeal angiofibroma; Endoscopic surgery; Bipolar cautery

Introduction

Juvenile nasopharyngeal angiofibroma (JNA) is a benign vascular tumour and comprises about 0.05% of all head and neck tumors (1). The incidence is 1:150.000 and it affects males in the 14 to 25 years age group (2). Although histologically benign, it may be in a very aggressive behavior, may extend to adjacent tissues and cause bone destruction by compression (3). There are various theories describing the pathogenesis and androgen dependence theory is most accepted (4). That may explain why this tumor is seen in the male sex (5).

Case Report

A 20-year-old male came to our clinic with the complaints of epistaxis and nasal obstruction. The patient had gone to another hospital with the same complaints about 2 years

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We have no conflict of interest that we should disclose

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ago. In that hospital embolization and punch biopsy had been applied and the result was juvenile nasopharyngeal angiofibroma. In his physical and endoscopic examination we detected a mass in left nasal passage and septum was displaced towards the right passage. The patient was hospitalized by our clinic for surgical treatment.

In his nasopharyngeal contrasted magnetic resonance imaging a mass was detected in nasopharynx about 49×47×41 mm in diameter. This homogenous contrast enhancing mass was obliterating the pterygopalatine fossa bilaterally, invading the sphenoid bone and extending to the left nasal passage. The septum was also displaced with its mass effect.

Digital subtraction selective angiography and embolization was applied to the patient 2 days before surgery. Then the patient was operated with endoscopic approach. Bipolar cautery was used in the operation. The mass was totally removed from adjacent healthy tissues. The specimen was send to pathology and the result was compatible with angiofibroma. After 7 days the patient was discharged as cured. In postoperative following no complication was observed.

Discussion

The typical symptoms of juvenile nasopharyngeal angiofibroma are chronic nasal obstruction, epistaxis, rhinorrhea, and pain. It may cause facial deformity, due to its invasive growth. Even proptosis, abnormal visual acuity may be seen if the orbit is involved, and paralysis of cranial nerves if there is intracranial extension (5,6).

In diagnosis, clinical history, physical examination, and imaging are used. These procedures may avoid the need for biopsy, with its risk of hemorrhage. Contrasted computed tomography of the nose and paranasal sinuses can be used to diagnose the tumor in the nasopharynx maybe with a marked contrast uptake. Magnetic resonance imaging is used if cranial and orbital invasion are thought. Angiography is another choice for the diagnosis and treatment by identifying the blood vessels feeding the tumor and gives the opportunity to embolize these vessels preoperatively (6,7).

There are various treatment options to control JNA, including radiotherapy, chemotherapy, hormonal therapy, electrocoagulation and surgery. Surgery is the main treatment of choice, ranging from open technique to endoscopic surgery (4). The extent of the tumor and the surgeon's experience determine the choice of surgery (6).

Prior embolization of the tumor is recommended to identify anatomical landmarks during surgery and facilitates the procedure. Consequently, prior embolization also reduces surgical morbidity (8). The ideal time for embolization of tumors is one to three days before endoscopy (9).

Endoscopic surgery has many advantages compared to the traditional approaches. It provides better visualization, incisions and closure is not needed, the duration of surgery is shorter and it has less postoperative complications, such as dysesthesia, pain, and trismus, which occur in some of the external approaches (7). Although open approaches give the opportunity of wider exposure, its disadvantages are high morbidity, more hospitalization, more bleeding, facial disfigurement, sometimes delayed bone growth in children (10).

Pryor et al. studied 54 patients in which nasopharyngeal angiofibromas were removed; they used open surgery in 49 patients and endoscopic surgery in five patients. The authors found that there was less intraoperative bleeding, a shorter hospitalization, and fewer complications and recurrences in patients that underwent endoscopic surgery (11).

Conclusion

We report this case to suggest an approach to a giant juvenile nasopharyngeal angiofibroma case both pre- and per-operatively. We wanted to emphasize that a giant angiofibroma may be treated with endoscopic approach because of its superiority to the traditional methods. We also aimed to warn the clinicians about juvenile nasopharyngeal angiofibroma when they meet a nasal mass, because a punch biopsy may cause extensive bleeding.

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Fig.1.
Axial MR showing the JNA with sphenoid sinus and cerebellum anterior involvement.

Fig 2.
Coronal CT scan showing the giant JNA

Fig 3.
Postoperative CT view.