CASE REPORT

# Intraosseous Haemangioma of Crista Galli

**Azreen Zaira Abu Bakar, Rahmat Omar**

Department of Otorhinolaryngology, Faculty of Medicine, University of Malaya, Kuala Lumpur

## INTRODUCTION

The nasal cavity harbours an enormous variety of neoplasms, including epithelial and mesenchymal tumours. Haemangioma is an infrequent mesenchymal tumour of the nasal cavity, mostly arising in the mucosa and rarely in the bones. We report a case of intraosseous haemangioma arising from crista galli in a 55 years old man.

## CASE REPORT

A 55 years old Malay man presented with multiple episodes of left sided epistaxis for four months duration. He bleeds about ¼ cup of blood each episode and stop with nose pinching and ice compression. He also complaint of nose block on the affected site, however no allergy symptoms, no discharge, no hyposmia, no block ear, no headache, no facial swelling or pain, no eye or throat symptoms. No history of facial trauma. Patient has diabetes mellitus and hypertension and on regular follow up. He is an ex-army, currently unemployed. He is married with 4 children. He has no family history of malignancy or NPC. He is a smoker, smokes about 10 cigarettes per day and denies alcohol consumption.

On examination showed patient was medium build, pink and good hydration status. Vital signs were normal. Nasoendoscopic examination of the nose showed pale hard mass originating occupying entire left nasal cavity. Otherwise right side of nose and nasopharynx was normal. Examination of the face, eye, ear, throat and neck showed normal findings. Patient has no cranial nerve palsy.

Biopsy of the mass showed inflamed polyps. CT scan of paranasal sinus demonstrates a large bony non enhancing mass arising from crista galli and extending into left side of nasal cavity and laterally into left anterior ethmoid cells. It involves the adjacent anterior superior aspect of nasal septum. No honeycomb pattern seen. Brain parenchymal normal. Patient had underwent endoscopic sinus surgery and debulking of tumour under general anaesthesia. Intra operatively noted that the mass was bony hard, arising from skull base and extending to lateral wall of left nasal cavity. The medial meatus and superior meatus were occluded by the tumour. No pus seen from medial meatus. Tumour was removed with microdebrider and drill. Bleeding during surgery was successfully controlled with adrenaline pack and diathermy.

Post-operative patient was well, no complication arise. He was discharge after 3 days. On follow up after 2 weeks, noted only crusting at the operative site with residual tumour mainly at the superior part of nasal cavity. Histopathological examination for the tumour report was presence of fragmented bits of lamellar bone and inflamed fibrous tissue. There was also present of woven bone with intervening spaces occupied by congested, large dilated thin walled vessels. No osteoclasts, granuloma or malignant features seen. These features are suggestive of introsseous haemangioma (cavernous type). Currently, after 1 year post operation, residual tumour size remain the same and patient is asymptomatic. In view of the following, we plan to monitor disease and not for completion of resection yet.

## DISCUSSION

Haemangioma are benign tumours originating in the vascular tissues of skin, mucosa, muscles, glands, and bones. Although head and neck lesions are common sites for haemangioma, haemangioma of the nasal cavity are rare. The most common site for soft tissue nasal haemangioma is the nasal septum, followed by the lateral wall and vestibule1. Haemangioma occur not only in soft tissues but also in bones. Intraosseous haemangioma account for only 0.7% of all primary bone tumours. The most common sites in the head and neck are the skull (53%), mandible (10.7%), nasal bones (9%), and cervical vertebrae (6%). Intraosseous haemangioma originating in the nasal cavity are extremely rare [1]. They have been described arising from the inferior turbinate, vomer, lamina perpendicularis ossi ethmoidalis and sinus maxillaries [2]. Involvement of crista galli is very rare.

The cause of intraosseous haemangioma is not well understood. These disease commonly occur at birth, however acquired cause was postulated due to trauma. In our case, there is no history of facial trauma. The lesions occur twice as often in females as in males. In contrast to soft tissue haemangioma, which are most common in children, osseous haemangioma are more common in older populations. It is more frequently seen in the third and fourth decades of life [3].

This lesion is usually unilateral, slowly growing haemorrhagic mass, frequently red or purple, which is sometimes coated with necrotic tissues. Pain is not a characteristic symptom of nasal haemangioma. This tumour, when symptomatic, produces recurrent epistaxis or

*This article was accepted: 4 September 2014*
*Corresponding Author: Azreen Zaira Abu Bakar, HKL, ORL, Jabatan ORL, Hospital Kuala Lumpur, Kuala Lumpur, KL 50568, Malaysia*
*Email: areein@yahoo.com*

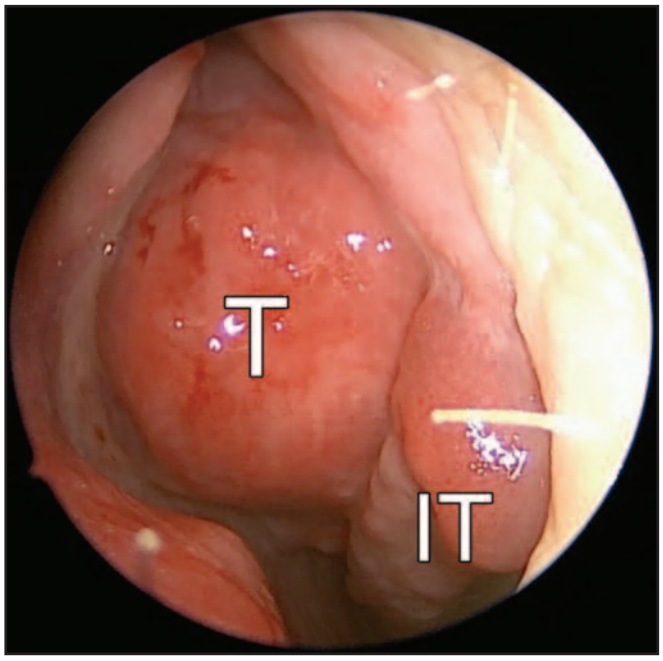


**Fig. 1:** Tumor (T) occupying the left nasal cavity, IT (inferior turbinate)

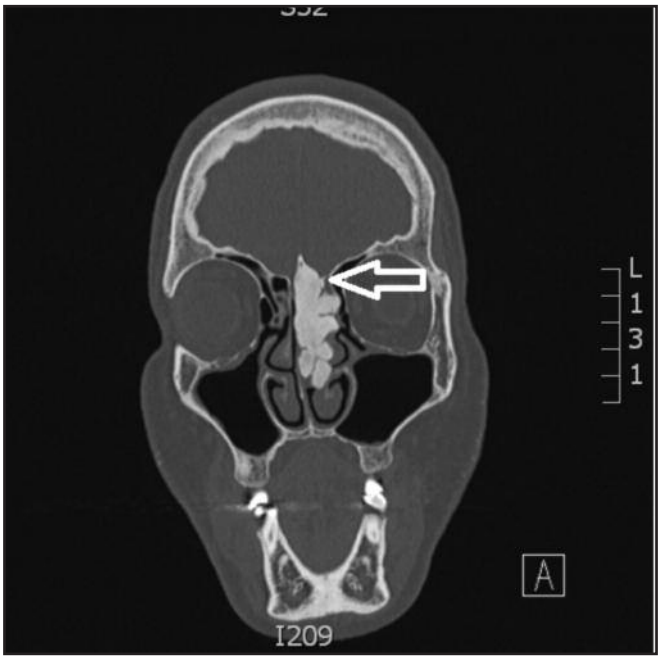


**Fig. 2:** White arrow showed non enhancing bony mass originating from left crista galli extending down to left nasal cavity up to the level of middle turbinate. Note there is no typical appearance of intraosseous hemengioma seen e.g honeycomb appearance.

haemoptysis and nasal obstruction. The presence of a bleeding mass in the nasal cavity is consistent with various malignant and benign lesions and the definitive diagnosis is made by histological confirmation of the surgical specimen.

Based on histopathological examination, haemangiomas can be subdivided into two types, that is, capillary and cavernous types. Although cavernous haemangiomas of the nasal cavity are uncommon, most intraosseous haemangioma show a cavernous pattern [1]. Capillary haemangiomas are usually present early in life. In contrast, most cavernous haemangiomas occur in adults [3]. The cavernous haemangioma is composed of large thin-walled vessels and sinusoids lined with a single layer of endothelium. However, the capillary haemangioma is formed by a small fine vascular network filled with blood. Usually these 2 components are seen together as mixed haemangiomas [3].

Radiographic examination is helpful in diagnosing. CT is the effective method [4]. Typically, it will reveal mass with honeycomb pattern and sometimes with sunburst and soap bubble appearance. These feature are due to multiple cavernous space in lesion which is surrounded by bone trabeculation. However, in the present case, these appearance was not seen. Angiography typically shows increased vascularity in the area of the tumour, with feeder vessels but no large draining veins [4].

The differential diagnosis of the nasal haemangiomas includes inverted papilloma, olfactory neuroblastoma, lymphoma, haemangiopericytoma, haemangioendothelioma, arteriovenous fistula, lymphangioma, glomangioma, melanoma, adenocarcinoma, squamous cell carcinoma and metastatic malignancies such as renal cell carcinoma.

Therapeutic approaches of intraosseous haemangioma include surgery, radiotherapy, sclerotherapy, and embolization [5]. The goal of the treatment in any subset of haemangioma is to remove the tumour completely without any functional deficit, cosmetic deformity, or significant tissue loss [4]. Although haemangiomas are responsive to radiotherapy, long-term side effects, such as malignancy, region growth impairment, and scarring, render it for unresectable lesions only. It has been observe that radiation stop tumour growth but does not reduce the size of tumour [5]. Some authors advocated transarterial embolization and sclerotherapy, however, these procedures are palliative.

Complete surgical excision with or without preoperative embolization is the mainstay of treatment or diagnosis. Preoperative embolization only possible if appropriate angiographic facilities and expertise are available [5]. Furthermore, although preoperative embolization has been reported to reduce the risk of intraoperative severe bleeding, other reports have shown that vascular manipulation is not necessary if en bloc excision can be performed with a sufficient margin [4]. Choice of the surgical approach depends on the exact location of the tumour. Many surgical approaches have been suggested including the midfacial degloving, lateral rhinotomy, trans-palatal, trans-antral approach and the Le Fort I osteotomy procedure. The trans-nasal endoscopic approach has been proposed as the technique of choice in cases of intra-nasal haemangiomas of the nasal cavity and para-nasal sinuses. To prevent

recurrence, removal of the tumour with margins of sound uninvolved bones is recommended [5]. In our patient, we have chose transnasal endoscopic method to remove the tumour. Partial resection may be a treatment of choice in huge tumour because complete tumour resection sometimes requires radical surgery, massive reconstruction and high morbidity.

## CONCLUSION

Intraosseous haemangioma of nasal cavity is a rare tumour. Nevertheless, it should be one of the differential diagnosis of nasal mass. Although radiological diagnosis of intraosseous haemangioma has been established, clinical and computed tomographic evidence does not always lead to an exact diagnosis. Therefore, surgery should play a definite role in both diagnosis and treatment.

## REFERENCES

1. Takeda K., Takenaka Y, Hashimoto M. Intraosseous Hemangioma of the Inferior Turbinate. Case Rep Med 2010; (2010): 409429.
2. Archontaki M, Stamou AK, Hajiioannou JK, Kalomenopoulou M, Korkolis DP, Kyrmizakis DE. Cavernous haemangioma of the left nasal cavity. Acta Otorhinolaryngol Ital. 2008; 28(6): 309-11.
3. Koybasi S, Saydam L, Kutluay L. Intraosseous Hemangioma of the Zygoma. Am J Otolaryngol. 2003; 24(3): 194-7.
4. Akiyama K, Karaki M, Osaki Y, Takeda J, Mori N. Intraosseous cavernous hemangioma of the middle turbinate. Auris Nasus Larynx. 2011; 38(4): 516-8.
5. Khanam H, Lipper MH, Wolff CL, Lopes MB. Calvarial Hemangiomas: Report of Two Cases and Review of the Literature. Surg Neurol 2001; 55(1): 63-7.