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HEMANGIOMA OF NASAL CAVITY

Otolaryngology

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ABSTRACT

Hemangiomas are benign tumors originating from vascular structures in the body. Although it is common in the head and neck region, it is rarely seen in the nasal cavity and paranasal sinuses.The exact etiology of such a lesion is unknown, but thought to be due to trauma and hormonal factors. They are divided into two types depending on the dominant vessel size at microscopy, capillary and cavernous. When these neoplasms arise in the nasal cavity, they are predominantly capillary and are found to arise from the nasal septum and are more common in the children. Cavernous haemangiomas are more likely to be found on the lateral wall of the nasal cavity and are more commonly seen in elderly. We describe a series of 4 cases referred to our hospital with a tumor in the nasal cavity. A complete endoscopic excision was preferred as it helps in better visualisation. Although rare, the diagnosis of hemangioma must always be kept in mind while discussing the differential diagnosis of a bleeding mass in the nasal cavity.

KEYWORDS

Hemangioma, capillary hemangioma, cavernous hemangioma, bleeding mass

INTRODUCTION

Hemangiomas are benign vascular lesions commonly found on the skin and oral mucosa, with the nasal cavity being a rare site of involvement[2][3].Hemangiomas are benign capillary proliferations with a distinctive lobular structure microscopically affecting mainly the tongue, lips, oral mucosa and gingiva [4].Exact etiopathogenesis of haemangiomas formation is not known, although they are divided into two types depending on the dominant vessel size at microscopy into capillary and cavernous types. When these neoplasms arise in the nasal cavity, they are predominantly capillary and are found to arise from the nasal septum and are more common in the children. A higher incidence in the male population is noticed during childhood and adolescence but in women, it is more frequently found in the third and fourth decade, coinciding with the child-bearing age[8].On the other hand, cavernous haemangiomas are more likely to be found on the lateral wall of the nasal cavity and are more commonly seen in elderly[5].Patients commonly present with progressive unilateral nasal obstruction, off and on epistaxis, mucopurulent discharge, epiphora, facial pain, headache, and hyposmia.

The data regarding 3 cases clinically diagnosed as hemangioma of nasal cavity was confirmed with radiological imaging such as CT or MRI which are needed to confirm vascular pathology. 1 case was misdiagnosed to be inverted papilloma clinically which was sinonasal cavernous Hemangioma.After thorough investigations and anesthetic fitness, patients underwent endoscopic surgical excision of tumor and the specimen sent for histopathological examination. Post operative care was given and patients were followed up for a period of 2months.

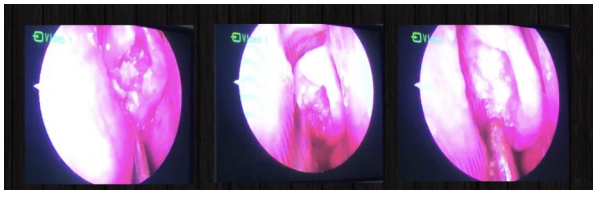
CASE 1

The patient presented to the OPD with bilateral nose block for past 1year & h/o recurrent epistaxis. No history of trauma or any bleeding diathesis. No history of nose picking/headaches/heaviness of head. Patient had no comorbid conditions.

On examination the external contour of the nose is normal. On anterior rhinoscopy, there was deviated nasal septum to the left with a low spur having no contact zone. Bilateral nasal cavity was normal. On posterior rhinoscopy, there was no mass seen in the nasopharynx.

Diagnostic nasal endoscopy (DNE) was done and revealed a massive middle turbinate on the right with polypoid changes, deviated nasal septum to left with spur, muco-purulent discharge noted in both nasal cavities. CT PNS was done following this and it revealed asymmetry of the medial wall of right middle turbinate with suspicious erosion of lamella(fig.1). Patient was taken up for surgery after routine investigations were done. Partial turbinectomy done and specimen sent for histopathological examination.

(Fig.1) CT PNS



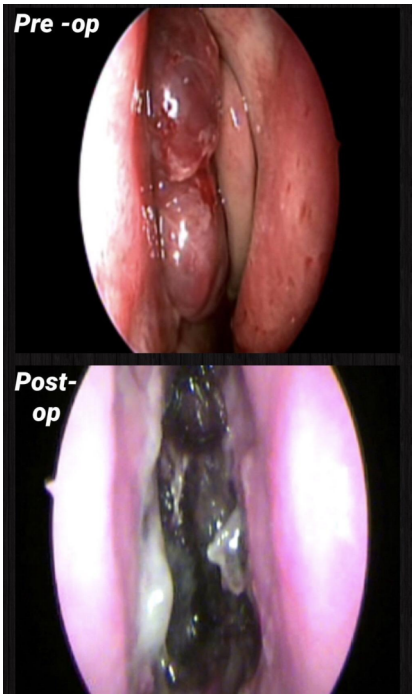
(**Fig.2**)Intra-op images

Histopathological examination revealed tiny fragments of fibrocollagenous tissue admixed with mucous glands and spicules of bone enclosing cavernous vascular spaces lined by endothelial cells filled with RBCs and fibrinous material. The picture is suggestive of cavernous hemangioma.

CASE 2:

Patient presented to the OPD with recurrent epistaxis and nose block for the past 6 months. Patient had no history of trauma/ bleeding diathesis/ headaches/ heaviness of head. Patient had no comorbid conditions.

On examination, the external contour of the nose was normal. On anterior rhinoscopy, & posterior rhinoscopy were normal.
Diagnostic nasal endoscopy (DNE) was done and revealed reddish mass arising for septum, bleeds on touch(fig.3). CT PNS was done & Patient was taken up for surgery after routine investigations were done. There were no intra-op or post-op complications encountered.

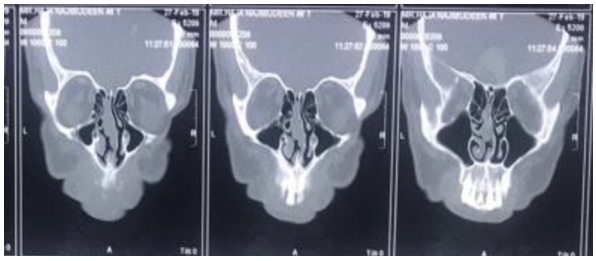


(**Fig.3**) Pre-op & post-op image

HPE reveals extensive endothelial proliferation with a distinctive histopathological appearance where the capillaries appear dilated and arranged in lobules. The picture is suggestive of lobular capillary hemangioma.

CASE 3:

A 45-year-old male patient presented with complaints of multiple episodes of epistaxis and nasal obstruction for the past four months. There was no known history of trauma or recent infection. Detailed evaluation, which included nasal endoscopy, revealed a reddish hemorrhagic polypoid mass in the left nasal cavity, which bled readily on touch. It was seen to be originating from the postero-superior portion of the septal mucosa and partially obstructing the left nasal passage. The patient was otherwise healthy. His blood parameters were within normal limits. CT scan of nasal and paranasal sinuses revealed a soft tissue mass arising from the posterosuperior portion of the nasal septum, without connection to the intracranial contents(fig.4).



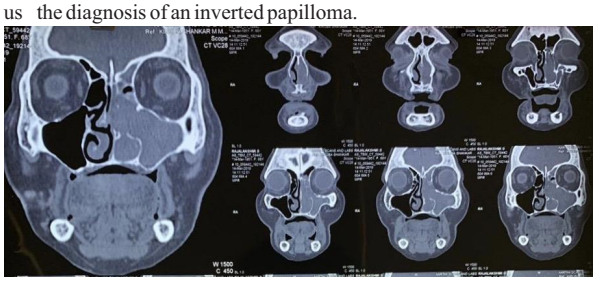
(**Fig.4**)CT PNS

There was no extension to the paranasal sinuses or contiguous tissues, and there was no bone damage. A biopsy from the mass was done which was reported as suggestive of capillary hemangioma. The nasal mass was excised completely under general anesthesia using an endoscopic surgery technique with no requirement of preoperative embolization or perioperative blood transfusion. This involved partial resection of the mucous septum, the perichondrium and part of the mucoperiosteum.

On gross pathologic examination, mass was smooth-surfaced, grayish-pink polypoid measuring approximately 1× 1.5 cm in size. On histopathological examination, a polypoid mass of angiomatous tissue protruding above the surrounding mucosa was seen. Pseudo stratified ciliated epithelium covered the entire lesion, and some parts were eroded. Lobules of dilated and congested capillaries were noted. There was profound inflammatory cell infiltration. The patient had an uneventful postoperative course, and there is no recurrence till date.

Case 4

37 year old male patient presented with intermittent swelling of the left side of face and epistaxis since 1.5 years. Anterior rhinoscopy revealed a large soft tissue mass almost completely filling in the left nasal cavity, with active mucoid discharge and minimal blood clots. A contrast enhanced MRI scan was done which revealed a well-defined non bone erosive mass within and limited to the left nasal cavity arising from the left middle meatus, displacing the nasal septum contra laterally. It was seen obstructing the left maxillary ostium, with resultant mucosal thickening and retained secretions in the left maxillary sinus. It appeared iso to hypointense to muscles on T1W, heterogeneously hyperintense on T2WI. This characteristic imaging pattern led us the diagnosis of an inverted papilloma.



(Fig 5) CT PNS

Punch biopsy of the nasal mass was done which showed mainly fibrin blood clots along with tiny fragments showing dilated, ectatic channels lined by endothelial cells and positive for vascular marker CD31.There was no inverted papilloma like morphologic features on histopathology. Hence, histopathology confirmed the lesion to be a cavernous haemangiomas. No evidence of any epithelial neoplasia or malignancy was seen in the biopsy. The patient underwent an endoscopic assisted modified medial maxillectomy with complete removal of the tumor. Though there was minimal intraoperative bleeding, the postoperative course in the hospital was uneventful.

DISCUSSION

Vascular lesions in the head and neck region originate from blood vessels or lymphatics[1].Haemangiomas are benign vascular tumors composed of newly formed vessels with endothelial lining. Though they are the most common soft tissue tumor in head and neck, they are rare in the nasal cavity and the paranasal sinuses[6].Depending on the dominant vessel size at microscopy, they are of three types-capillary, cavernous and mixed[6].The most common type of haemangiomas in nasal cavity is the capillary type composed of capillary sized vessels, occurring more commonly in the nasal septum or vestibule and is more common in children, while cavernous haemangiomas more commonly arise from the lateral wall of the nasal cavity, appear at around fourth decade and contain large endothelium-lined vascular spaces[5,7].

Hemangioma of the nasal cavity usually presents with recurrent unilateral epistaxis, nasal obstruction, nasal discharge similar to our study. It can also rarely present with facial pain, alteration of smell, and headache.

Radiological imaging such as CT or MRI are needed to confirm vascular pathology. CT can be performed to exclude bone erosion or possible malignant transformations. MRI is superior to computed tomography in sinonasal cavernous hemangiomas because of greater soft tissue resolution and less artifact. On computed tomography, cavernous haemangiomas appear as soft tissue density circumscribed mass, heterogeneously enhancing after injection of contrast. Non enhancing areas correspond to the areas of necrosis and hemorrhage. Contrast CT scanning usually reveals anatomical location and extension of the tumor. The underlying bone is usually normal but may be remodeled by adjacent long-standing pressure from the expanding mass [9,10]. CT are considered to be more typical of cavernous haemangiomas. Capillary hemangioma is a capillary ball that are located close to each other separated by connective tissue stroma. Cavernous hemangioma should be treated because they will never undergo involution.Itoh et al first described the MR features of the cavernous haemangiomas[10]. They show low signal intensity T1-weighted images and very high signal intensity on T2-weighted images compatible with low flow vascular structure.

The differential diagnoses of intranasal hemangioma include nasal polyp,

antrochoanal polyp, meningocele, meningoencephalocele, sarcoidosis, Wegener's granulo-matosis, simple granulation tissue, papilloma, Kaposi's sarcoma, hemangiosarcoma, squamous-cell carcinoma, mucosal malignant melanoma, and lymphoma[11].

Hemangiomas should be treated as they have potential to cause bleeding problems and complications such as infection in the head and neck, especially in the face, ear, and nose. Steroids, interferon and vincristine may be used in the medical treatment of hemangiomas. These agents are limited in use due to large number of toxic side effects.

Surgical excision is the treatment of choice for the treatment of nasal hemangiomas. Various methods have been employed for such lesions such as excisional surgery, laser ablation, cryotherapy, and electrocoagulation.

CONCLUSION:

Hemangiomas are common in the head and neck region but occurs rarely in the nasal cavity and paranasal sinuses. Hemangiomas should be treated because they have the potential to cause bleeding problems. Endoscopic surgical excision & confirmation via histological examination was prefered over other modalities of treatment with no recurrence over a period of 6 months.

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