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Case Report

Pyogenic Granuloma of Inferior Turbinate : A Case Report

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Abstract:

Background: *Pyogenic granuloma is a rapidly growing benign fibrovascular lesion involving the skin and mucous membranes. It usually affects the head and neck regions. The most common site is the oral cavity, while involvement of the nasal cavity is quite rare. Though few cases in the nasal cavity have been reported, occurrence in the inferior turbinates is extremely rare. The exact aetiology is unknown. It is often associated with pregnancy. Microtrauma, hormonal changes, and contraceptives may be the causative factors for the development of this vascular mass.*

Case report: *Here we present the case of a 28-year-old woman, 2 weeks postpartum, with epistaxis and nasal obstruction. Diagnostic nasal endoscopy revealed a vascular mass arising from the right inferior turbinate. The patient was treated successfully by endoscopic excision of the mass.*

Conclusion: *Pyogenic granuloma should be considered as a differential diagnosis in any pregnant woman presenting with a vascular mass in the head and neck region.*

Keywords: *Pyogenic granuloma; postpartum epistaxis; inferior turbinate.*

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Introduction:

Pyogenic granuloma (PG), also known as granuloma pyogenicum, is a typical, acquired, benign vascular tumor that develops in tissues like the skin and mucous membranes[1]. The term pyogenic granuloma is a misnomer, as it contains neither pus cells nor granulomatous lesions. It presents as a solitary, fleshy, friable reddish mass therefore called as lobular capillary haemangioma. The most common sites of involvement are the face, oral cavity, lips, fingers, and toes. Pyogenic granuloma often arises in pregnancy, particularly on the gingiva or elsewhere in the oral mucosa, and is then termed the “pregnancy tumor [2]. Occurrences in the nasal cavity are less common. Though a few cases in the nasal cavity have been reported, involvement of the inferior turbinate is rare. Lopez et al[3]. showed in their study that the common site for sino-nasal pyogenic granulomas is the nasal

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septum, followed by the inferior turbinates. Microtrauma, hormonal changes, contraceptive usage, and medications are the known predisposing factors.

Pyogenic granuloma has a prevalence of 0.2–9.6% during gravidity[4]. Pyogenic granulomas in the nasal cavity usually present as unilateral epistaxis and nasal obstruction. Early intervention and treatment are necessary for controlling torrential bleeding and preventing complications. This case study intends to demonstrate a postpartum pyogenic granuloma in the nasal cavity in a 28-year-old lady.

Case Report:

A 28-year-old woman, 2 weeks postpartum (Gravida 1 para 1), presented to our ENT department with complaints of recurrent right nasal bleeding since entering her 3rd trimester. She experienced multiple episodes of unprovoked nasal bleeding, which resolved spontaneously. There was no history of trauma, bleeding disorders, hypertension, or previous nasal surgeries. She consulted a nearby ENT doctor after her first bleeding episode. A diagnostic nasal endoscopy was done, which revealed a deviated nasal septum to the right and mucopurulent discharge with blood clots from the right nasal cavity. patient was treated conservatively. After 2 weeks of caesarean section, she experienced similar bleeding symptoms. Diagnostic nasal endoscopy was repeated once again, which revealed a hemangiomatous mass arising from the right inferior turbinate. She was admitted to our hospital for further management.

Anterior rhinoscopy showed a reddish-brown mass obstructing the right nasal cavity. She was hemodynamically stable without any active bleeding. There were no other similar lesions in the body. A non-contrast CT paranasal sinus scan was done; the report showed polypoidal mucosal thickening in the right maxillary sinus and in the anterior right nasal cavity and erosion of the right middle and inferior turbinates (Fig.1).

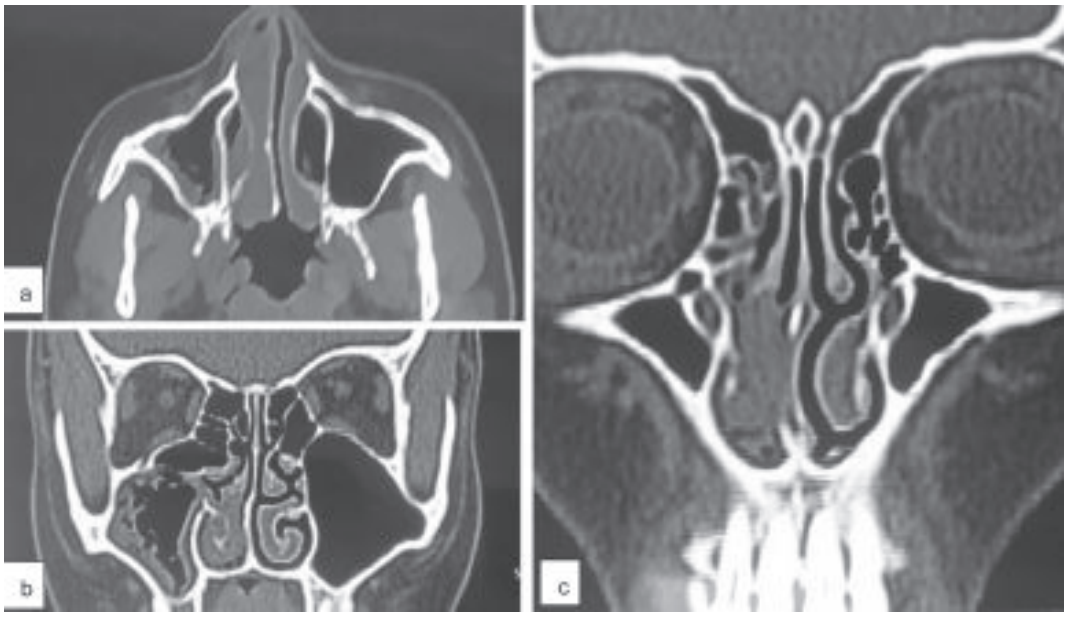

Fig.-1: ***a****-Computed tomography paranasal sinus in axial view showing mucosal thickening of the right inferior turbinate* ***b*** *and* ***c****-coronal views showing right inferior turbinate thickening and right maxillary sinus mucosal thickening*

The patient was scheduled for an endoscopic excisional biopsy of the right nasal mass and nasal endocautery. A full blood count revealed haemoglobin levels of 10.8 g/dl, platelet counts of 2.91 lakhs/cubic mm, and a normal coagulation profile. A diagnostic nasal endoscopy was performed. A red, fleshy mass arising from the right inferior turbinate is seen. Endoscopic excision of the mass was done. The mass was approximately 2X1.5 cm in size and was sent for histopathological examination . Suction diathermy and bipolar cautery were used to electrodessicate the inferior turbinate's raw base area (Fig.2), and an absorbable hemostat (Surgicel, Ethicon/ Johnson & Johnson, Somerville, New Jersey, USA) was placed over the raw area to achieve hemostasis. Right uncinectomy and right middle meatal antrostomy were done. Right maxillary sinus ostium widened. The right anterior nasal cavity was packed with an 8-cm merocel. Patient withstood the procedure well. Blood loss was minimal. Postoperatively, the patient was started on intravenous ceftriaxone and sulbactum 1.5 gram twice daily.

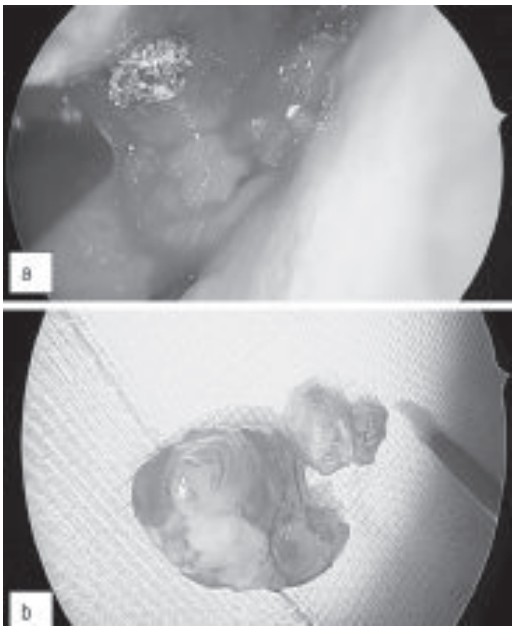

Fig-.2: ***a****-Cauterised base of the right inferior turbinate mass after excision using diathermy,****b****- 2.3X1.5X1.0 cm polypoidal soft tissue mass –after excision from right inferior turbinate.*

Right sided nasal pack was removed after 48 hours of the procedure. The patient was discharged on post operative day 2 without any recurrent epistaxis. The patient is on regular follow-up without any evidence of recurrence.

The histopathological examination (Fig.3) demonstrated a polypoidal fibrovascular lesion showing denuded lining epithelium with squamous metaplasia, surface exudate, and ulceration. Subepithelium showed thin walled vessels with varying caliber in a fibrotic stroma with edema and myxoid change. Mononuclear inflammatory cell infiltrate was seen. No submucosal glands were seen. No mitotic activity or necrosis was seen- suggestive of capillary lobular hemangioma.

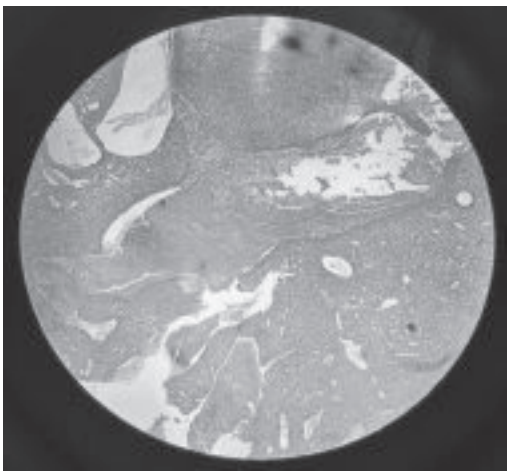

Fig.-3: *Histopathological slide showing denuded lining epithelium with squamous metaplasia, subepithelium with thin-walled vessels in a fibrotic stroma, and mononuclear inflammatory cell infiltrate*

Discussion:

In 1897, Poncet and Dor coined the term "botryomycosis humaine" to describe lobular capillary haemangiomas[5]. Intranasal lobular

capillary hemangioma was first reported in 1940[6].

The majority of intranasal pyogenic granuloma patients present with unilateral epistaxis, followed by nasal obstruction[7]. In three case series of PG confined to the nasal cavity, lesions were present on the nasal septum in the majority of patients, at 55%, 66.7%, and 76.3%, respectively. Lesions on the turbinate were present in 20%, 12.1%, and 15.8% of cases, respectively, with the remaining cases on the vestibule, uncinate process, and ethmoid sinus[3,8].

Although the pathogenesis of lobular capillary haemangiomas is unknown, suggestions involving hormonal elements have been put forward because the lesion is frequently seen in pregnant women and people using oral contraceptives. Nasal pyogenic granulomas can also develop secondary to microtrauma following nasal surgeries (rhinoplasty) or prolonged nasal intubation[9,10]. It can be cutaneous or mucosal. While cutaneous involvement predominates in men, mucosal involvement is more common in women, especially during pregnancy[11].

Progesterone is suggested to stimulate endometrial endothelial cell proliferation in a process mediated partly by the vascular endothelial growth factor (VEGF), which is reported to be overexpressed in pyogenic granulomas[12].

The molecular mechanism for the regression of pregnancy-related pyogenic granulomas after parturition remains unclear. But in our case, since the lesion didn't involve postpartum, surgical excision was preferred as the treatment of choice.

Certain malignant tumors may clinically resemble pyogenic granulomas; therefore, histopathologic validation is crucial. The recurrence rate of pyogenic granulomas is approximately 16%[2]. To prevent recurrence, endoscopic surgical excision with electrodessication of the base remains the method of choice. Other treatment modalities include cautery, laser therapy, embolization, intranasal steroids, and harmonic scalpels. If the tumor is small, conservative treatment can be used. In our case, we did endoscopic excision with cauterization of the base.

Conclusion:

Pyogenic granuloma in the inferior turbinate is a rare condition .Prompt diagnosis and treatment is necessary to prevent complications. Pyogenic granuloma should be considered as a differential diagnosis in patients who have epistaxis, nasal obstruction, or a nasal vascular mass with a recent history of nasal trauma or pregnancy.

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