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Case Series

Nasal Hemangioma: Clinical Analysis and Surgical Outcome of 10 Cases

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Abstract

Background: Nasal hemangiomas, often representing lobular capillary hemangiomas (pyogenic granuloma), are benign vascular lesions that commonly present with recurrent epistaxis and nasal obstruction. They can mimic other sinonasal pathologies. This article includes series of 10 cases describing the clinical profile of patients presenting with nasal hemangioma at a tertiary care center in Northern India.

Methods: A retrospective analysis of 10 patients diagnosed with nasal hemangioma based on clinical examination and nasal endoscopy was conducted. Demographic data, presenting symptoms, and lesion characteristics were recorded and analyzed.

Results: The cohort included 3 males and 7 females (male-to-female ratio 3:7) with a mean age of 28.9 years (range 10–45 years). All patients (100%) presented with epistaxis; 80% had associated nasal obstruction or blockage. Lesions were predominantly located on the inferior turbinate (80%), with one case each on the anterior septum and nasal septum. The right and left sides were involved in 4 and 6 cases, respectively.

Conclusion: Nasal hemangiomas present across a wide age range with a female predominance in this series. Recurrent epistaxis with or without nasal obstruction is the hallmark presentation. Early recognition and endoscopic management are key to successful outcomes. Histopathological confirmation is recommended to differentiate from other vascular or neoplastic lesions.

Keywords: Nasal Hemangioma; Epistaxis; Lobular Capillary Hemangioma; Pyogenic Granuloma.

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Introduction

Nasal and paranasal sinus vascular tumours present as major concern in otorhinological emergencies. Sinonasal hemangioma is a subset of bening vascular lesion encountered in less than 10% cases in head and neck territory. Little's area in the anterior part of nasal septum, inferior turbinate, lateral wall of nose, floor of the nasal cavity and the roof of the vestibule are the usual site of origin Initially described as "bleeding polyp" by Ash and Old. [1-4] Hormonal influences, local irritation and trauma represent the usual factors responsible for these but the precise etiology still remains doubtful. The most common histological subtype encountered in the nasal cavity is lobular capillary hemangioma (LCH), also known historically as pyogenic granuloma. These lesions are characterized by rapid growth, friable surface, and a tendency to cause recurrent, often profuse, epistaxis. They may also cause nasal obstruction, facial pain, or discharge depending on size and

location. Although they can occur at any age, they are frequently seen in children, young adults, and pregnant women (pregnancy-associated pyogenic granuloma or granuloma gravidarum).[5]

Differential diagnoses include juvenile nasopharyngeal angiofibroma (in adolescent males), inverted papilloma, hemangiopericytoma, angiosarcoma, and other vascular malformations.

Accurate diagnosis relies on clinical suspicion, nasal endoscopy, and histopathological examination. Imaging (contrast-enhanced CT or MRI) may be useful for larger lesions to assess extent and vascularity.

This case series aims to describe the clinical presentation, and lesion characteristics of nasal hemangioma in patients presenting to a tertiary care otorhinolaryngology department.

Patients and Methods

This retrospective observational case series included ten consecutive patients diagnosed with nasal hemangioma at the Department of Otorhinolaryngology of a tertiary care teaching hospital between 2021 and 2026

Inclusion criteria: Patients of any age and gender with clinical and endoscopic diagnosis of nasal hemangioma (friable, vascular, polypoidal or sessile lesion with history of epistaxis).

Exclusion criteria: Patients with incomplete records or alternative final diagnosis (e.g., angiofibroma, malignancy).

The records were analysed and data collected concerning symptoms, endoscopy findings, treatment, surgery and follow-up history. Data collected included age, gender, presenting symptoms, duration of symptoms, lesion laterality and site (inferior turbinate [IT], anterior septum [AS], or other), and any associated findings. Diagnosis was primarily clinical and endoscopic. All patients underwent routine hematological investigations and pre-operative optimization as indicated.

Statistical analysis was descriptive. Ethical approval was obtained from the Institutional Ethics Committee, and patient confidentiality was maintained.

Results

A total of ten patients were included in the study. There were three males and seven females, giving a male-to-female ratio of three: seven (thirty% males, seventy% females). The age of the patients ranged from ten to forty five years with a mean age of 28.9 years.

All ten patients (100%) presented with epistaxis, which was the chief complaint. Eight patients (eighty %) also complained of nasal obstruction or blockage. Other symptoms included nasal discharge (in four patients) and facial pain (in two patients). No patient had significant facial swelling or neurological symptoms.

Lesion characteristics: The majority of lesions (eight out of ten, 80%) were located on the inferior turbinate (IT). One lesion was on the anterior septum (AS) and one on the nasal septum proper. Laterality: four lesions on the right side and six on the left side.

Detailed demographic and clinical data are presented in Table 1.

Table 1: Demographic and Clinical Characteristics of Patients with Nasal Hemangioma (n=10)

Case No.	Age (years)	Gender	Lesion Site	Symptoms
1	10	Male	Right IT	Nasal block, discharge, epistaxis
2	35	Female	Right IT	Nasal block, discharge, epistaxis
3	12	Male	Left AS	Nasal block, epistaxis
4	30	Male	Left IT	Epistaxis, nasal blockage, facial pain
5	40	Female	Left IT	Epistaxis, nasal obstruction, discharge
6	45	Female	Left IT	Epistaxis, nasal obstruction, discharge
7	28	Female	Left IT	Epistaxis
8	25	Female	Left IT	Nasal block, epistaxis
9	26	Female	Right AS	Epistaxis
10	38	Female	Right IT	Epistaxis, nasal blockage, facial pain

IT = Inferior Turbinate; AS = Anterior Septum

All patients underwent endoscopic resection under local anaesthesia except one case where general anaesthesia was used due to large size of the lesion.

The area of origin in all cases were cauterized to avoid recurrence and bleeding. Hemostasis was achieved in every case. In all cases the specimen were sent for histopathological examination depicting stratified squamous epithelial lining and underlying neoplasm composed of proliferated vascular spaces lined by endothelial cells corresponding with hemangioma.

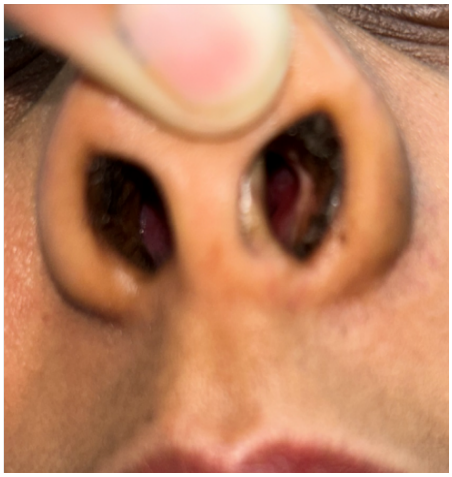


Figure 1: pre-operative images of patients



Figure 2: CT images of patients with nasal hemangioma



Figure 3: Intraoperative images of endoscopic surgery of patients

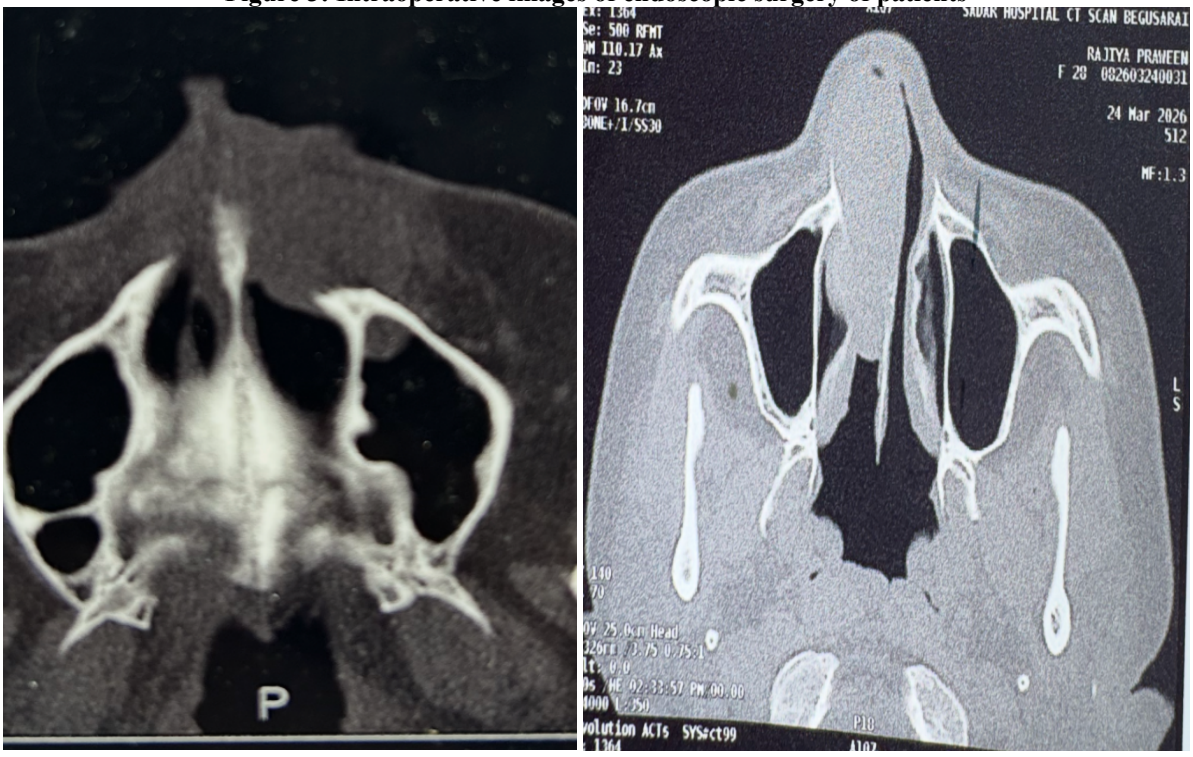


Figure 4: Intraoperative image depicting site of origin of septal hemangioma

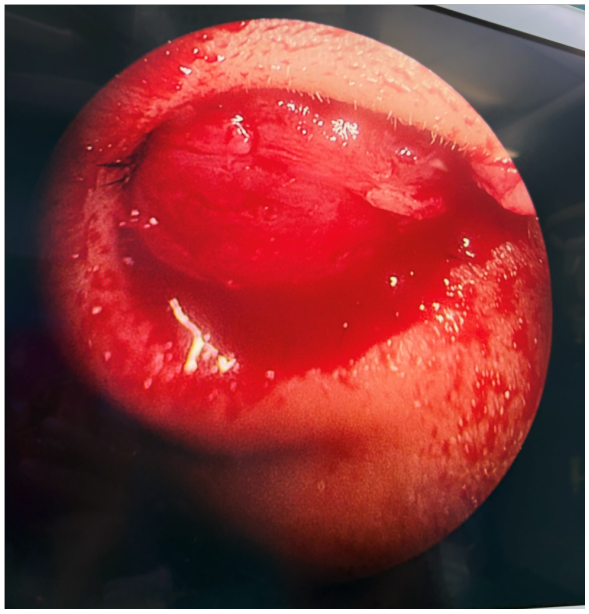


Figure 5:

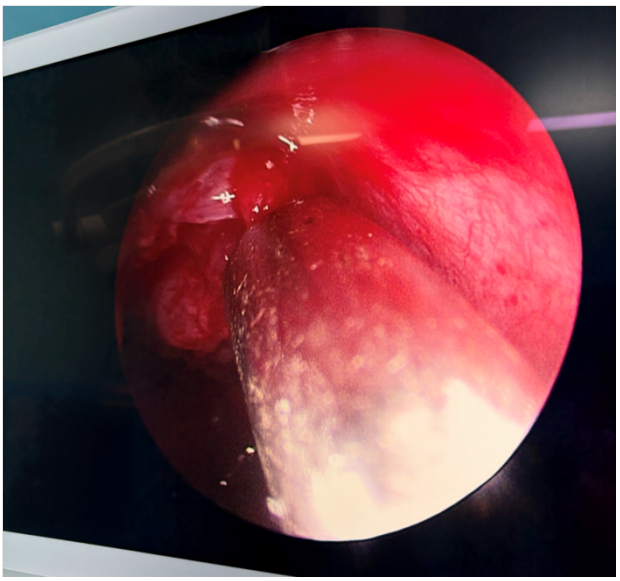


Figure 6:

Discussion

Nasal hemangiomas, particularly lobular capillary hemangiomas, are well-recognized benign lesions in otorhinolaryngology practice. Our series demonstrates a clear female predominance (seventy %), which aligns with some reports in the literature where hormonal factors or higher healthcare-seeking behavior in females may play a role.[6,7] However, other series show near-equal gender distribution or slight male predominance depending on the population studied.[8] The age range of ten–forty five years with a mean of approximately twenty nine years is consistent with the known bimodal peak in children/young adults and the association with pregnancy or hormonal changes in reproductive-age females. The youngest patient (ten years) and the pediatric/adolescent cases highlight that these lesions should be considered in the differential diagnosis of recurrent epistaxis even in children.

Epistaxis was universal in our series, often recurrent and spontaneous. Nasal obstruction was the second most common symptom. These two symptoms together should raise suspicion for a vascular lesion in the nasal cavity. The predominance of inferior turbinate location (eighty %) in our series is notable; while the anterior septum (Kiesselbach's area) is classically described, turbinate lesions are also frequently reported and may be related to local trauma from airflow or digital manipulation.

The differential diagnoses of intranasal hemangioma will likely comprise of nasal polyp, antrochoanal polyp, Wegener's granulomatosis, hemangiosarcoma, squamous-cell carcinoma, mucosal malignant melanoma, and lymphoma [9]. Recommended choice of treatment is complete endoscopic surgical excision [10,11] Management typically involves endoscopic excision under local or general anesthesia. Complete removal with cauterization of the base is essential to minimize recurrence. Endoscopic surgery is preferred as it is minimally invasive, allows better examination of site of origin of lesion, hence ensuring complete removal. Usually chances of recurrence are low if proper care is taken during its excision to include underlying mucosa and perichondrium.

Histopathological examination is mandatory to confirm the diagnosis and rule out malignancy or other vascular tumors.

Histologically Lobular capillary hemangioma has characteristic features consistent with polypoid, circumscribed, and lobular proliferations of capillaries in a scanty fibrous stroma. [12] In our setting, all patients were managed endoscopically with good immediate outcomes

Limitations of this study include its retrospective design, small sample size, lack of detailed treatment and long-term follow-up data, and absence of routine imaging or standardized biopsy protocol in all cases. Larger prospective studies with histopathological correlation and outcome analysis would provide more robust evidence.

Conclusion

Nasal hemangioma is an important cause of recurrent epistaxis and nasal obstruction across pediatric and adult age groups, with a notable female predominance in our study. Lesions most commonly arise from the inferior turbinate. High clinical suspicion, careful endoscopic evaluation, and histopathological confirmation are essential for accurate diagnosis and appropriate endoscopic management. This case series contributes to the

limited literature on the clinical spectrum of nasal hemangiomas from the Indian subcontinent.

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