

Comprehensive Study on Lobular Capillary Hemangioma of Nose in Tertiary Care Centre: A Retrospective Study

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Abstract

Background: Lobular capillary hemangioma (LCH) is a benign vascular lesion of unknown origin, the diagnosis of which can be confusing with other vascular lesions of the nose.

Materials and Methods: We retrospectively studied a cohort of 20 confirmed cases of LCH treated over 5 years period. Data regarding symptoms, possible etiologic factors, demographic profile, imaging patterns, histopathological features, and treatment modalities are reviewed.

Results: Nasal obstruction (80%) and epistaxis (60%) were the chief symptoms. The size of the lesions ranged from 1 to 10 cm. LCH was predominantly seen in females. In 70% of the patients, the mass was seen arising from the caudal end of the septum, in 20% from the anterior end of middle turbinate and in 10% from the anterior end of the inferior turbinate. All patients were operated endoscopically under general anesthesia. At mean follow-up period of 1 year no recurrence was noted.

Conclusion: Endoscopic resection of LCH in nasal cavity is associated with relatively minimal morbidity, no recurrence and better visualization of the tumor with no need for preoperative embolization.

Key words: Cohort, Epistaxis, Endoscopy, Lobular capillary hemangioma, Nasal obstruction

INTRODUCTION

Lobular capillary hemangioma (LCH) is a benign vascular growth of the skin and mucus membrane commonly affecting the head and neck.¹ Most mucosal LCH of the head and neck arise in the oral cavity, but nasal cavity involvement is rare.² When it is seen in the nasal cavity, the anterior portion of septal mucosa and tip of inferior turbinate are the most common involved areas.^{2,3} To date there have been no reported case of malignant transformation.² LCH was first described by Poncet and

Dor in 1897 where they referred to these tumors as small vascular tumors in the fingers of four patients.⁴ LCH are commonly seen in females and usually in the third decade.¹ The exact etiology is still unknown.⁵ Recurrent nose picking or nose packing may play a role in the development of LCH resulting in the overgrowth of granulation tissue.⁶ Other plausible etiologies that have been proposed include viral oncogenes, microscopic arterial venous malformations and over production of angiogenic growth factors.¹ We hereby report a series of 20 cases of LCH of the nose which were managed by endoscopic guided electro-cauterization. This is one of the biggest retrospective study next to study done by Puxeddu *et al.*¹

MATERIALS AND METHODS

This is retrospective study wherein clinical records of 20 patients confirmed to be having LCH treated

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over a period of 6 years (June-2009 until May-2014) at Sri Siddhartha University Hospital were reviewed. Patients were individually informed about the study and their informed consent was taken to include them and their hospital records in the study. They were also informed that their images will be included in the publication in future for which they agreed. Institutional ethical clearance was taken for the study.

Inclusion Criteria

All patients confirmed by histopathology to have LCH of the nose.

Exclusion Criteria

Patients with bleeding diathesis, and other comorbidities.

Information regarding symptoms, possible etiologic factors, demographic profile, imaging patterns, histopathological features, and treatment modalities were reviewed.

RESULTS

Under endoscopic guidance, the mass was excised with electrical diathermy. Minimal bleeding was encountered for which anterior nasal packing was done with Merocel, which was removed after 24 h. Excised specimens were sent for histopathological examination, which showed the lobular arrangement of capillaries at the base. The lobules consisted of discrete clusters of endothelial cells and lumina varying from indistinct to prominent. In some, there were additional changes like capillary dilation, inflammation, stromal edema and granulation tissue reaction. The patients were followed up for a period of 1 year with no recurrence noted during this time.

Out of 20 patient, 16 (80%) were females, and 4 (20%) were males (Table 1). All 16 female patients (80%) were in the third decade, of these 10 had a history of oral contraceptive pills intake. Of the 4 male patients, 2 were in the first decade, and 2 in the third decade. Main clinical symptoms were a unilateral nasal obstruction (80%) and epistaxis (60%) which was unprovoked or with trivial trauma (Table 2). In 14 (70%) patients the mass was seen arising from the caudal end of the septum, in 4 patients (20%) from the anterior end of the middle turbinate and in 2 patients (10%) from the anterior end of inferior turbinate (Table 3). The lesions varied from 1 to 10 cm. The above findings were confirmed endoscopically.

Computed tomography (CT) scan with contrast was done in all patients, and there was almost a uniform pattern of lobulated, irregular intensely enhancing lesion.

Table 1: Sexwise distribution

Sex	n=20	Percentage
Male	4	20
Female	16	80

Table 2: Clinical symptoms

Symptoms	n=20	Percentage
Nasal obstruction	16	80
Epistaxis	12	60

Table 3: Origin of LCH in nose

Site of origin of LCH	n=20	Percentage
Septum	14	70
Anterior end of middle turbinate	4	20
Anterior end inferior turbinate	2	10

LCH: Lobular capillary hemangioma

DISCUSSION

LCH, also called as pyogenic granuloma was first described in 1940 by Frank and Blahd M. In 1980 Mills *et al.* termed pyogenic granuloma as LCH due to its characteristic microscopic features.⁷ Although the etiology of LCH has not been clearly identified micro trauma and female hormonal factors have been suggested as predisposing factors of LCH because these lesions usually occur after trauma or during pregnancy.⁸ This tumor occurs at all ages, but more frequent seen in middle-aged adults and in females than in males.^{1,2} This was similar to our study where more than 3/4th of the patients were females. In nasal cavity anterior portion of the septal mucosa and tip of inferior turbinate are the most common involved areas.^{1-3,8} In the present study the mass was seen to be arising from the caudal end of the septum in the majority (70%) of the patients. Epistaxis is the most common mode of presentation of LCH. However as the lesion increase in size, it may cause symptomatic unilateral nasal obstruction.² This was in contrast to our study wherein the nasal obstruction was the predominant (80%) presenting complaint which can be attributed to late medical attention. CT imaging findings of LCH are non-specific, LCH should be considered as a possible diagnosis whenever a well-defined soft tissue mass with mild diffuse homogenous enhancement or marked central enhancement of the mass with a peripheral isodense area on the enhanced CT scans is seen in the nasal cavity.⁹ In our study all patients, CT scan showed lobulated irregular intensely enhancing picture. Endoscopic surgery is the treatment of choice even for large lesions, preoperative embolization warranted very rarely.¹

All 20 patients in our study underwent endoscopic excision with cauterization of base of the lesion under general anesthesia with minimal morbidity. Cauterization of the base of the tumor is associated with good hemostasis and low rate of recurrence.^{6,10,11}

CONCLUSION

With this experience, we advocate trans nasal endoscopic resection of LCH in nasal cavity using electrocautery, as it is associated with relatively minimal morbidity, low rate of recurrence and better visualization of the tumor. However, this being a single center study this needs to be replicated in other centers.

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