ORIGINAL ARTICLE

Role of Wide Excision and Cautery in Treatment of Capillary Hemangiomas in ENT

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Abstract

Introduction: Capillary hemangiomas are wide spread vascular tumors in ENT. Its presentation is common in nose while they are relatively rare in tongue and ear.

Methodology: A retrospective study of 30 cases wherein majority of the cases came with preceding history of trauma and subsequently they were diagnosed with capillary hemangioma in ear, nose, and tongue. Histopathological picture of hemangioma showed clusters of thin-walled capillaries with single layer of endothelium. All patients were treated by wide excision with clear margin and cauterization, followed for 1 year and no recurrences were found.

Result: Wide excision with cauterization of base is essential for the prevention of recurrence of traumatic hemangiomas.

Keywords: Cautery, Hemangioma, Histopathology examination Nasal hemangioma, Trauma.

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Introduction

Hemangiomas are tumors of benign in nature; they are usually developmental in origin. Hemangiomas are usually present at birth but may become more prominent during life. It is considered to be the most widespread vascular ENT tumors. About 60% of these are seen in the head and neck region.[1]

They are usually seen in the skin, subcutaneous tissues, and oral mucosa. Nasal hemangiomas are more common of which 80% arise from the Little's area, remaining arise from the lateral wall.[2]

Aural hemangiomas are very rare, with only 15–20 cases reported in the literature to date.[3–5]

Oral hemangiomas most commonly occur in the tongue and floor of the mouth which are usually present at birth and gradually increase in size and spontaneously resolve by the age of 5 years. We present 10 cases of hemangiomas of which six cases presented in nose, two cases in tongue, and one case in ear. Analysis of clinical and radiological findings and treatment outcomes were done.

Materials and Methods

By retrospective study of subjects who were diagnosed with hemangioma presenting in ear, nose, and tongue over a period of 2 years at ENT Department in Meenakshi Medical College, Hospital and Research Institute, Kanchipuram was performed. Demographic and clinical data of the study subjects were collected. There were 30 patients in the study, including one presentation in ear, two in tongue, and remaining seven patients presented with hemangioma of nose (Table 1).

All the subjects were treated by wide excision with clear margin and cauterization. All the patients were followed for a period of 1 year and no recurrences were to be found (Figs 1 to 7).

The clinical features of the patients in our study group are summarized below.

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Table 1: Clinical features

Ear	*Nose*	*Tongue*
Bleeding	Epistaxis	Foreign body sensation
Ear block	Nasal obstruction	
Tinnitus		

The sex distribution in our study consisted of 27 females and 3 males, thereby indicating higher incidence of hemangioma in females as compared to males in the ratio of 2.3:1.

Out of the 30 cases of the study, 26 patients with hemangioma presented with history of trauma while 4 patient had no known cause.

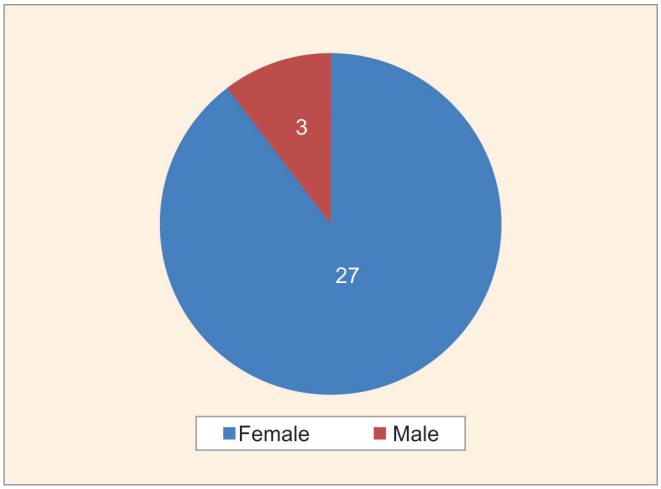


Fig. 1: Sex distribution

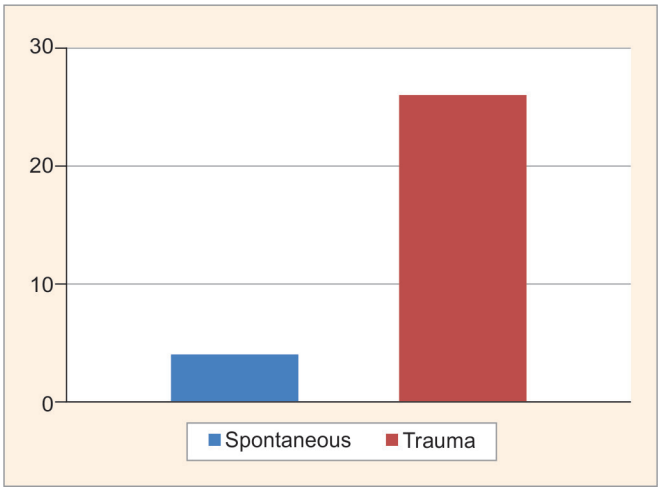


Fig. 2: Causative

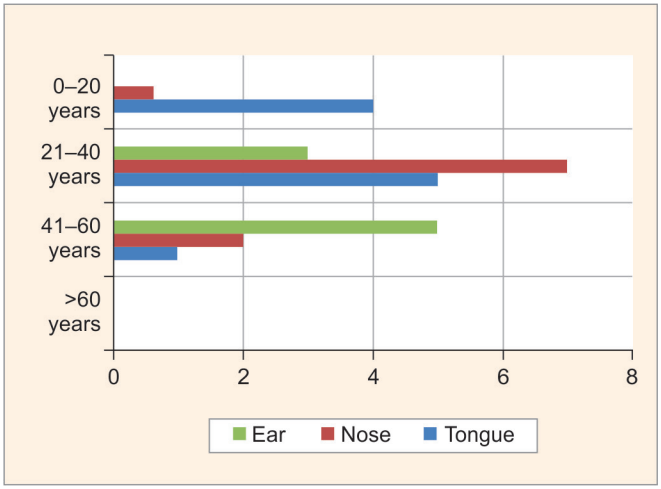


Fig. 3: Age distribution

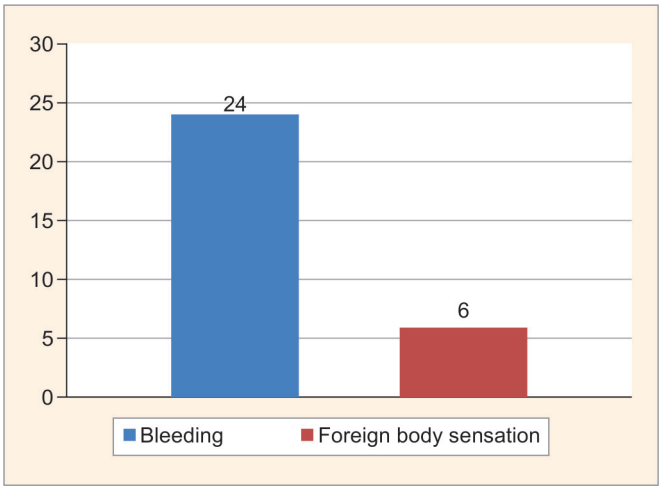


Fig. 4: Presentation

Discussion

Hemangiomas are benign vascular hamartomas common in the head and neck region. They are usually present at birth but may become more prominent during life and involutes by 5 or 6 years of age, with a female preponderance.[6–8]

Clinically, they are soft, sessile, pedunculated, and painless. They can be smooth or irregular with a color variation from deep red to purple which blanches on pressure. Based on the histology, they can be of capillary or cavernous type; defined by the size of vascular spaces. Capillary types are of small-thin-walled vessels lined by single layer of plump or flattened endothelial cells which are surrounded by pericytes and reticular fibers that are sparsely seen. The cavernous type is made of irregular deep dermal blood-filled channels; composed of thin-walled sinusoid separated by scanty connective tissue stroma. Mixed type can be seen and are more common than cavernous type. Some undergo spontaneous fibrosis which comes under the sclerosing type.

Management is based on patient's age and clinical presentation. Based on the size, the following methods can be used-: compression, radiation, electrocoagulation, cryosurgery, embolization, sclerosing agents, laser, and surgical excision.

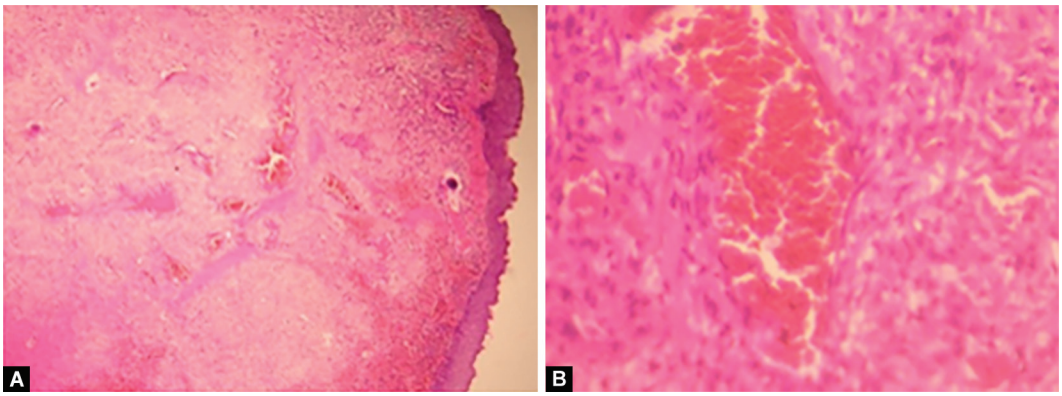
Classification

Hemangiomas are classified by Shafer et al. as follows:

- Capillary hemangioma
- Cavernous hemangioma
- Angioblastic or hypertrophic hemangioma
- Racemose hemangioma
- Diffuse systemic hemangioma
- Metastasizing hemangioma
- Nevus vinosus or port-wine stain
- Hereditary hemorrhagic telangiectasia

Pathogenesis

The etiopathogenesis of hemangioma is poorly understood. Trauma being most common etiology leads to regions of hypoxia during



Figs 5A and B: Histopathology. (A) Tumor shows squamous epithelium lining and composed of dilated blood vessels and endothelial cells with slit like lumen. Endothelial cells are arranged in clusters and nodules with areas of fibrinoid necrosis; (B) Histopathological picture shows dilated vascular channels lined by endothelial cells

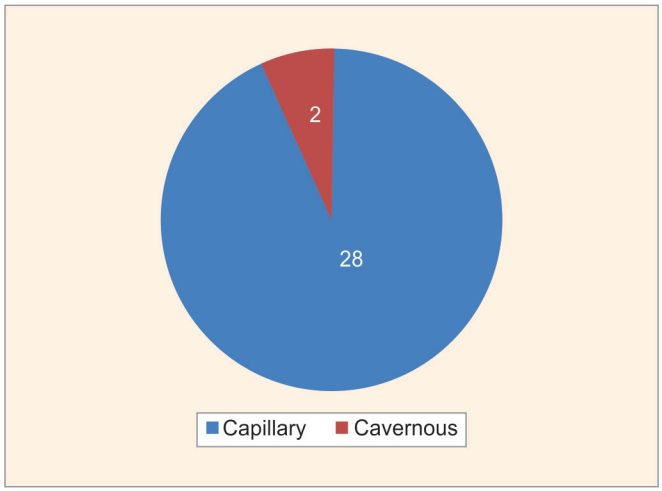
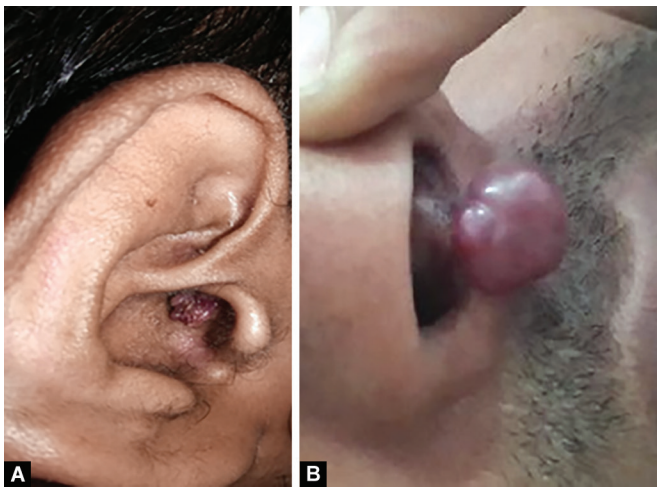


Fig. 6: Type of hemangioma



Figs 7A and B: Aural and nasal hemangioma. (A) Photograph showing capillary hemangioma arising from the wall of external auditory canal, right ear; (B) Photograph showing capillary hemangioma arising from the columella of the right nasal cavity

healing. It has a role in alteration of cellular behavior. Further vascular endothelial growth factor (VEGF) and hypoxia-inducible factor-1 (HIF-1) which are responsible for neovascularization play a major role due to restoration of blood flow to affected regions. Hemangioma may test positive for LYVE-1, VEGF receptor, CD 34 of which LYVE-1 suggests dysregulation in endothelial differentiation and maturation.[7,8]

Aural hemangiomas are extremely rare and appear around 60–70 years of age. Freedman et al, in 1972, reported the first two cases of cavernous hemangioma of the EAC arising from the posterior canal wall.[9,10]

Nasal hemangiomas are more common of which 80% arise from the Little's area, remaining arise from the lateral wall.[11,12]

A study by Muthubabu et al. showed capillary hemangioma of columella of nose. Patients present with epistaxis and cosmetic alterations. Wide excision and cauterization of the base gives excellent results.[13]

Tongue hemangiomas though rare cause distress to the patients due to cosmetic deformity, recurrent hemorrhage and hindrance to speaking, mastication, and deglutition. The treatment depends on patient's age and clinical site.[14,15]

A study by Arora et al. showed total excision of the capillary hemangioma is recommended and is best done by endoscopic surgery techniques. Recurrence is not common if surgical excision is done properly.[16]

Conclusion

From this study, it is possible to draw some conclusions: Hemangiomas are benign lesions commonly identified by rapid endothelial cell proliferation, common in nose, but are relatively uncommon in tongue and ear and almost all the hemangiomas are preceded by history of trauma. Unlike infantile hemangiomas, adult hemangiomas have a tendency to progressively enlarge and do not spontaneously regress. The treatment of choice is wide margin excision and cauterization which is found to have least recurrence.

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