Case Series

Lesions of pinna in a tertiary care hospital in Dakshina Kannada

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ABSTRACT

Introduction and Aim: Most of the lesions affecting pinna are cutaneous conditions. Those arising from the cartilage are extremely rare, whereas those from the soft tissue like vascular, stromal and adnexal components are relatively common. The present study aims at analysing the proportion, types, and categories of lesions affecting the pinna.

Methods: Following institutional ethics committee approval, a retrospective analysis of medical records of 40 patients who underwent surgical excision of pinna lesions from 2006 to 2018 was conducted at a tertiary care hospital in Dakshina Kannada, India. Lesions were grouped as benign adnexal, benign soft tissue, malignant lesions, and infection/inflammation.

Results: Median age was 47.5 years and mode was 59 years. There were thirty (75%) males and ten (25%) females. The commonest lesions included epidermal cyst (25%), followed by seborrhoeic keratosis (17.5%), and squamous cell carcinoma (10%).

Conclusion: A wide spectrum of entities affecting the pinna were encountered in the present study. Superficial cystic lesions are the most frequent type found in pinna and are amenable to simple excision. Benign neoplasms require surgical intervention; malignancy is also to be kept in mind while making a clinical diagnosis, necessitating wide clearance with or without neck dissection. Early intervention and confirmation of diagnosis by histopathological examination helps not only in successful management but also in preventing disfigurement and psychosocial complications.

Keywords: Adnexal and skin appendage neoplasms; ear auricle; external ear; infections; malignant neoplasms; soft tissue neoplasms.

INTRODUCTION

The external ear comprises the pinna and external auditory canal; pinna is made up of elastic cartilage (except lobule), subcutaneous fat covered by skin and adnexa. The convex medial surface of pinna has a greater amount of subcutaneous tissue and fat compared to the thinner lateral concave surface (1).

The pinna is vestigial in humans, with non-functional auricular muscles. It focuses acoustic energy to the external auditory canal, hence acting as a funnel, in spatial resolution of sound as well as concentrating the incident energy to a relatively smaller area on the tympanic membrane (2).

Most of the lesions affecting pinna are cutaneous conditions. Those arising from the cartilage are extremely rare, whereas those from the soft tissue like vascular, stromal and adnexal components are relatively common. The present study aims at analysing the proportion, types and categories of lesions affecting the pinna.

MATERIALS AND METHODS

Following Institutional Ethics Committee approval, a retrospective analysis of medical records was conducted in 40 patients who underwent surgical excision for pinna lesions at a tertiary care hospital in Dakshina Kannada, India from 2006 to 2018. Variables such as age, gender, laterality, clinical presentation, final diagnosis, and surgical procedure were noted; conditions affecting the pinna such as perichondritis, seroma and keloid, which were more commonly encountered in our practice were excluded from the study. The lesions were grouped as superficial cystic lesions, superficial non-cystic lesions, benign adnexal neoplasms, benign soft tissue neoplasms, malignant neoplasms and infections. Descriptive statistical analysis was done.

Table 1: Table showing distribution of lesions of pinna based on subsite

Subsite of pinna	n (%)
Medial surface	17 (42.5%)
Helix	6 (15%)
Crus of helix	1 (2.5%)
Lateral surface	4 (10%)
Concha	6 (15%)
Lobule	6 (15%)
TOTAL	40 (100%)

RESULTS

Patients included in the study ranged between 1-95 years. The median age was 47.5 years and mode was 59 years. There were thirty (75%) males and ten (25%) females. Nineteen (47.5%) patients had lesions on the left pinna, 21 (52.5%) on the right, of which one patient had different lesions affecting both the right and left pinna. Most of the lesions (42.5%) were found on the medial surface of pinna (Table 1). The commonest lesion was epidermal cyst (25%), followed by seborrhoeic keratosis (17.5%), and squamous cell carcinoma (10%). (Table 2).

Fig. 1: Clinical photograph of epidermal cyst on the left pinna

DISCUSSION

The lesions affecting the pinna can arise from the skin, adnexa, and soft tissue. The commonest cystic lesion of the pinna is epidermal cyst, which is known to have a slight male preponderance; and the same was noted in the present study (Fig. 1). Dermoid cyst is most likely midline, congenital, occasionally iatrogenic, with exceptional occurrence in the pinna. The case in the present study was that of a 22-year-old male clinically suspected to be a sebaceous cyst over the helix. Clinically, both epidermal and dermoid cysts are asymptomatic round, smooth masses with or without surface opening. When infected, they present with signs and symptoms of inflammation. Complete excision is recommended; helical lesions are amenable to surgery as cartilage underlies the cyst and plane of dissection is easily achievable. Preservation of skin over lobular cysts might pose a challenge. Large skin defects may necessitate skin graft (3). All the patients in the present study underwent primary closure with good postoperative healing.

Pilar (trichilemmal) cysts affecting the pinna have not been documented in literature. They seldom undergo malignant transformation due to inflammation or trauma (4). One case was noted on the medial surface of the lobule in a 64-year-old man, who underwent surgical excision with primary closure and negative margins.

In the present study, hidrocystoma was diagnosed in an 8-year-old boy, which was clinically suspected as sebaceous cyst and removed surgically. Hidrocystoma typically affects middle-aged population, has no gender predilection; surgical excision, incision and drainage or laser excision are recommended (5).

Fig. 2: Clinical photograph of seborrhoeic keratosis of the right pinna

Table 2: Categorical distribution of lesions of pinna

Lesions	n (%)
Superficial cystic lesions	
Epidermal cyst	10 (25%)
Dermoid cyst	1 (2.5%)
Pilar cyst	1 (2.5%)
Hidrocystoma	1 (2.5%)
Superficial non-cystic lesions	
Seborrhoeic keratosis	7 (17.5%)
Sebaceous hyperplasia	1 (2.5%)
Linear epidermal nevus	1 (2.5%)
Benign adnexal neoplasms	
Pilomatricoma	2 (5%)
Keratoacanthoma	1 (2.5%)
Trichoadenoma	1 (2.5%)
Common wart	1 (2.5%)

Benign soft tissue neoplasms	
Capillary haemangioma	4 (10%)
Arteriovenous malformation	1 (2.5%)
Angiofibroma	1 (2.5%)
Dermatofibroma	2 (5%)
Malignant neoplasms	
Squamous cell carcinoma	4 (10%)
Infections	
Histoplasmosis	1 (2.5%)
TOTAL	40 (100%)

Among the superficial non-cystic lesions, seborrhoeic keratosis was most frequent (17.5%) (Fig. 2). It has no gender preponderance and usually affects the older population. It may be single or multiple, spherical or oval, brown to black in colour with a smooth or granular surface and sharp margins; ear involvement is unusual. Lesions may be asymptomatic or present with pruritus, pain, erythema or haemorrhage. Differential diagnoses include actinic keratosis, verruca vulgaris, malignant skin tumours. Removal by curettage, laser, cryotherapy is advisable. Recurrence is known (6). All the 7 cases in the present study were elderly, and underwent complete surgical excision without recurrence. One of them was diagnosed with melanoacanthoma, a rare variant of seborrhoeic keratosis; wedge excision of helix was done.

Sebaceous hyperplasia typically affects middle-aged individuals, and present as asymptomatic soft, smooth to minimally verrucous, yellow papules. Treatment options include cryotherapy, chemical treatment, electrocautery, photodynamic therapy, laser and surgical excision. However, scarring, atrophy may occur (7). In our study, sebaceous hyperplasia affected a young 14-year-old boy who underwent in-toto surgical excision biopsy.

One case of linear epidermal naevus was noted on the medial surface of pinna in a 20-year-old male, and complete excision was performed. It presents as single or multiple, linear or whorled, yellowish-brown, soft, granular or warty plaques, unilateral, bilateral or distributed anywhere on the skin or oral mucosa. Malignant transformation is rare. Surgical excision is recommended for small lesions. Aggressive approaches are more effective, but with a greater chance of postoperative scarring (8).

Our study revealed 4 types of benign adnexal neoplasms. Pilomatricoma typically presents as a firm subcutaneous nodule affecting females up to 20 years of age. In the present study, two cases, a 6-year-old girl and a 64-year-old gentleman, were clinically diagnosed as sebaceous cyst and surgically excised, with no recurrence. Though head and neck involvement is common, very few reports of pilomatricoma have been described in the pinna. Treatment is surgical; recurrence rate is 3-4%, perhaps due to incomplete excision (9).

One case of keratoacanthoma was found in a 70-year-old gentleman, who presented with a warty growth on the pinna, misdiagnosed as malignancy and excised with wide margins. Keratoacanthoma is known to occur more often in men, and between 65-71 years of age. Transformation into malignancy is uncommon. Treatment of choice is full-thickness excision with 5mm margins; recurrence rate is 1-8%. Also, a fresh lesion may appear at the same site due to koebnerization(10).

Trichoadenoma is benign, nodular, slow-growing, small, cystic to firm, with a telangiectatic surface; usually diagnosed as basal cell carcinoma, typically presents on the face in all age groups; we came across one such case in 41-year-old man, simple excision was done, which is usually curative (11). There are no documented reports in the pinna.

Common wart (verruca vulgaris) caused by human papilloma virus, occurs usually on the face and extremities, rarely in the ear. A 50-year-old lady presented with one such case; clinical diagnosis of wart was made based on the typical appearance. Simple surgical removal of wart was performed. Though surgical excision is preferred, intra-lesional steroid therapy has proven effective (12).

Benign soft tissue lesions were further classified as vascular and fibrous in the present study. The most frequent vascular lesion was haemangioma (4 cases), including 2 cases of pyogenic granuloma. Although rare, intra-temporal haemangiomas may involve external auditory canal, tympanic membrane, facial nerve, middle ear space, and internal auditory canal; no report of pinna involvement was found in literature. Typical presentation is in the fifth decade, it is more common in men; we found a bimodal presentation and male predominance. Failure of spontaneous regression is an indication for surgery (13). All the cases in the present study had cystic lesion over helix and were surgically excised. We also came across a single case of arteriovenous malformation in a 45-year-old man; incidence in the ear is around 16%. The patient presented with a 2x2cm pulsatile mass for 20 years, which was surgically excised without prior embolization. Embolization is beneficial for extensive lesions (14).

Angiofibroma was noted in an elderly male; full-thickness excision of the lesion was performed,

without major complications. Biopsy is to be avoided in suspected cases due to risk of massive haemorrhage. Only one such case has been reported previously in the external ear, which was also treated by surgical excision (15).

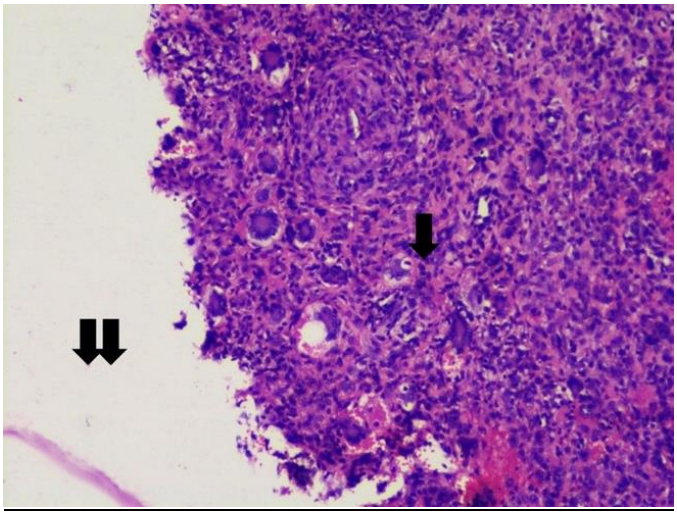

Fig. 3: Microscopic photograph of aneurysmal fibrous histiocytoma – Haematoxylin & Eosin section [400x] – solid area composed of plump histiocytes and fibroblasts (single arrow) surrounding the vascular space (double arrows)

Two cases of dermatofibroma in the pinna were encountered in the present study. A warty growth over the helix in a 6-year-old girl was excised and diagnosed as epithelioid fibrous histiocytoma. It classically affects individuals in fifth decade. Surgical excision is curative, recurrence is rare (16). A soft bluish swelling in the concha in a 64-year-old lady was surgically removed and diagnosed as aneurysmal fibrous histiocytoma (Fig.3). Despite positive margins and a 20% recurrence rate, no lesion was noted even a year after surgery. This variant forms less than 2% of dermatofibromas, usually seen in middle-aged females, similar to the present case (17, 18).

In the malignancy group, 4 cases of squamous cell carcinoma (SCC) including one verrucous variant were noted. SCC typically occurs in older men; the 3 women with SCC were older than 50 years in the present study. SCC pinna has a greater risk of metastases (12-16%) than cutaneous SCC that arises elsewhere (0.5-2%;19). Complete removal by micrographic surgery with margin clearance is effective. Neck dissection is indicated for loco-regional metastases (1). Surgical excision was performed in all 3 women, with evidence of lymph node metastasis and positive margins, in one and two patients respectively. Neck dissection was not performed in any case. A 70-year-old gentleman presented with a slow-growing ulceroproliferative lesion over the medial surface of pinna. Wide excision of the tumour was performed; histopathological diagnosis of verrucous carcinoma was established. No recurrence was noted. This variant typically occurs in 60-70-year-old men, has low metastatic potential, though it may be locally aggressive; recurrence is not rare. Surgical excision with 4mm margins is recommended. Very few cases have been documented in the ear (20).

In the infection category, an immunocompetent patient presented with a solitary nodule in the pinna, was biopsied and diagnosed as histoplasmosis. Skin lesions can arise infrequently as primary cutaneous histoplasmosis, presenting as an ulcer, nodule, abscess or molluscum contagiosum-like lesion. He was treated with itraconazole, which is the drug of choice, except in severe systemic disease, where amphotericin is recommended. There is only one more previously documented report of histoplasmosis of the pinna (21).

The study highlights the occurrence of certain unusual lesions affecting the pinna like solitary localised histoplasmosis in an immunocompetent individual and, soft tissue neoplasms such as fibrous histiocytoma, angiofibroma, which are seldom seen in the external ear, all confirmed by histopathology.

CONCLUSION

A wide spectrum of entities affecting the pinna were encountered in the present study. Superficial cystic lesions are the most frequent type found in pinna and are amenable to simple excision. Benign neoplasms require surgical intervention; malignancy is also to be kept in mind while making a clinical diagnosis, necessitating wide clearance with or without neck dissection. Early intervention and confirmation of diagnosis by histopathological examination helps not only in successful management but also in preventing disfigurement and psychosocial complications.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

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