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Clinical Study of Benign Lesions of Pinna in Tertiary Care Centre

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Abstract: ***Background and Objectives**: The pinna is a crucial component of the peripheral auditory system, contributing significantly to facial aesthetics and sound collection. Benign lesions of the pinna, though not uncommon in clinical practice, have not been comprehensively studied as a group. This study aimed to examine the various types of benign lesions of the pinna presenting to a tertiary care ENT department and to determine their proportion, demographic distribution, and clinical characteristics. **Materials and Methods**: A cross-sectional study was conducted over 18 months (December 2020 to June 2022) in the Department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Bengaluru. A total of 58 patients with clinically diagnosed benign lesions of the pinna were enrolled after obtaining informed consent. History taking, clinical examination, relevant investigations, and management details were recorded. Data were analysed using SPSS version 20. **Results**: The mean age of the study group was 31.14 ± 13.05 years. The majority of patients were in the 21–30 years age group (41.4%). Males constituted 51.7% and females 48.3% of cases. Keloid was the most common benign lesion (41.4%), followed by auricular pseudocyst (13.8%), auricular sebaceous cyst (6.9%), and dermoid cyst (6.9%). Among keloid patients, the 21–30 years age group was most affected (41.7%), and females predominated (91.7%). Male patients predominantly presented with auricular pseudocyst, sebaceous cyst, and dermoid cyst (13.3% each). **Conclusion**: Keloid was the most frequent benign lesion of the pinna, predominantly affecting young females, likely due to ear-piercing practices. Early clinical diagnosis and appropriate management, including complete excision with intralesional steroid therapy, are essential to prevent recurrence and cosmetic deformity.*

Keywords: Benign lesions, Pinna, Auricle, Keloid, Auricular pseudocyst, Auricular sebaceous cyst

1. Introduction

The ear is the principal organ of hearing and is integral to human communication, learning, and balance. Anatomically, it is divided into the external ear, middle ear, and inner ear. The external ear comprises the pinna (auricle) and the external auditory meatus. The pinna, as a crucial component of the peripheral auditory system, functions primarily to collect and transmit sound waves as vibrations to the tympanic membrane, while also contributing significantly to facial aesthetics. [1,2] The delicate and projecting nature of the pinna renders it susceptible to trauma, and lesions of this structure are not uncommon. The rising prevalence of ear-piercing practices, increasing rates of violence, and occupational hazards have collectively contributed to a higher incidence of pinna-related pathology in clinical practice. [3,4]

Any lesion of the pinna, whether benign or malignant, can alter its form and function.[5,6] The external and middle ear may develop inflammatory, cystic, vascular, or tumoral lesions, both benign and malignant.[7,8] Benign lesions include cysts, wounds, traumatic sequelae, moles, vascular tumours, and fibrous proliferations.[9-12] Among these, keloid is the most clinically significant, presenting as a smooth, firm, pinkish growth that develops after skin injury or piercing and is prone to recurrence despite treatment.[1,13] Auricular pseudocyst (seroma) involves the accumulation of serous fluid between the perichondrium and cartilage, and its aetiology remains uncertain; successful treatment is complicated by the high likelihood of recurrence.[14,15] Sebaceous cysts arise from blocked drainage ducts of the sebaceous glands and are frequently encountered in the postauricular sulcus and lobule.[1]

Delayed diagnosis and inadequate therapy of pinna lesions can lead to significant disfigurement and aesthetic deformities.[16] Other notable benign conditions include perichondritis, characterised by pain, erythema, and localised swelling of the auricular cartilage;[17] Herpes Zoster Oticus (Ramsay Hunt Syndrome), an acute peripheral facial neuropathy caused by reactivated Varicella Zoster Virus;[18] and neurofibromas, which, though common in the peripheral nervous system, are rarely documented in the pinna.[19,20] Despite the diversity of benign pinna lesions encountered in clinical practice, comprehensive studies examining all lesion types together remain limited. The present study was therefore undertaken to determine the proportion and clinical profile of various benign lesions of the pinna presenting to a tertiary care centre.

2. Methodology

This cross-sectional study was conducted over 18 months from December 2020 to June 2022 in the Department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Bengaluru. The study population consisted of patients attending the ENT outpatient department with benign lesions of the pinna. Using the formula $n = N/1+(Ne)^2$, where $N = 72$ and $e = 0.05$, a sample size of 58 was calculated. All patients with clinically diagnosed benign lesions of the pinna who provided informed consent were included. Patients with inflammatory conditions, infections, malignant conditions of the pinna, or those unwilling to participate were excluded.

After obtaining institutional ethics committee clearance, enrolled patients were interviewed using a pre-tested, semi-structured questionnaire. A thorough clinical history was taken, including onset, duration, and predisposing factors such as ear piercing and trauma. Complete local and systemic examination was performed. Relevant investigations including blood counts, blood sugar, urine examination, serology (VDRL, HIV), FNAC, audiometric evaluation, and chromosomal analysis were carried out as indicated. Data were entered into Microsoft Excel and analysed using SPSS version 20. Results were expressed as frequencies, percentages, mean, and standard deviation. A p-value of < 0.05 was considered statistically significant.

3. Results

A brief overview of the study methodology: this cross-sectional study enrolled 58 patients with clinically diagnosed benign lesions of the pinna at the ENT OPD of Rajarajeswari Medical College and Hospital, Bengaluru, over 18 months. Demographic characteristics, lesion type, and lesion-specific distributions were analysed.

The age and gender distribution, spectrum of benign lesions, and keloid-specific data are summarised in Tables 1–4 below.

Table 1: Age and Gender Distribution of Study Participants (n = 58)

Parameter	Category	Frequency	Percentage
Age Group (Years)	< 10	4	6.9%
	11–20	6	10.3%
	21–30	24	41.4%
	31–40	10	17.2%
	41–50	12	20.7%
	51–60	0	0%
	> 60	2	3.4%
	Total	**58**	**100%**
Gender	Male	30	51.7%
	Female	28	48.3%
	Total	**58**	**100%**

Mean age: 31.14 years; SD: 13.05 years

Table 2: Distribution of Benign Lesions of the Pinna (n = 58)

Benign Lesion	Frequency	Percentage
Keloid	24	41.40%
Auricular pseudocyst	8	13.80%
Auricular sebaceous cyst	4	6.90%
Dermoid cyst	4	6.90%
Fibroma	2	3.40%
Microtia	2	3.40%
Epidermoid cyst	2	3.40%
Pinna granuloma	2	3.40%
Pinna seroma	2	3.40%
Melanoma	2	3.40%
Absent helix	2	3.40%
Tags	2	3.40%
Pre-auricular sinus	2	3.40%
Total	58	100%

Table 3: Distribution of Keloid According to Age and Gender (n = 24)

Parameter	Category	Frequency	Percentage
Age Group (Years)	< 10	0	0%
	11–20	6	25.00%
	21–30	10	41.70%
	31–40	4	16.70%
	41–50	4	16.70%
	51–60	0	0%
	> 60	0	0%
	Total	**24**	**100%**
Gender	Male	2	8.30%
	Female	22	91.70%
	Total	**24**	**100%**

Table 4: Distribution of Benign Lesions of the Pinna by Gender

Benign Lesion	Males (n=30)	Females (n=28)
Keloid	2 (6.7%)	22 (78.6%)
Auricular pseudocyst	4 (13.3%)	4 (14.3%)
Auricular sebaceous cyst	4 (13.3%)	0
Dermoid cyst	4 (13.3%)	0
Fibroma	2 (6.7%)	0
Microtia	2 (6.7%)	0
Epidermoid cyst	2 (6.7%)	0
Pinna granuloma	2 (6.7%)	0
Pinna seroma	2 (6.7%)	0
Melanoma	2 (6.7%)	0
Absent helix	2 (6.7%)	0
Tags	2 (6.7%)	0
Pre-auricular sinus	0	2 (7.1%)
Total	30 (100%)	28 (100%)

The mean age of the 58 study participants was 31.14 ± 13.05 years. As shown in Table 1, the majority of patients belonged to the 21–30 years age group (41.4%), followed by 41–50 years (20.7%) and 31–40 years (17.2%), indicating that benign pinna lesions predominantly affect the younger, economically active population. The gender distribution was nearly equal, with males constituting 51.7% and females 48.3%.

Table 2 reveals that keloid was the most frequent benign lesion, accounting for 41.4% of all cases (n = 24), followed by auricular pseudocyst (13.8%), auricular sebaceous cyst (6.9%), and dermoid cyst (6.9%). Less common lesions each accounted for 3.4% of cases and included fibroma, microtia, epidermoid cyst, pinna granuloma, pinna seroma, melanoma, absent helix, preauricular tags, and preauricular sinus.

Table 3 shows that among keloid patients, the 21–30 years age group was most commonly affected (41.7%), and females constituted an overwhelming majority (91.7%) compared to males (8.3%). Table 4 demonstrates a striking gender difference in lesion distribution: keloid was predominantly seen in females (78.6%), whereas auricular pseudocyst was equally distributed between the sexes, and auricular sebaceous cyst, dermoid cyst, and most other lesions were exclusively seen in males. Pre-auricular sinus was noted only in female patients (7.1%).

4. Discussion

The pinna, as a vital component of the peripheral auditory system and an important contributor to facial aesthetics, is susceptible to a wide variety of benign lesions. [1,2] In this study, the majority of patients (41.4%) were between 21 and 30 years of age, with a mean age of 31.14 years. This predominance of younger patients is consistent with the findings of Prasad KC et al.,[16] who similarly observed that young and middle-aged individuals are disproportionately affected by pinna lesions, owing both to cosmetic awareness and increased occupational and recreational exposure to trauma. The gender distribution in this study was nearly equal (51.7% males, 48.3% females), which is consistent with the broadly reported demographic pattern in the literature.[16] Keloid was the most common lesion, present in 24 patients (41.4%), followed by auricular pseudocyst in 8 patients (13.8%), and auricular sebaceous cyst and dermoid cyst in 4 patients each (6.9%). The high prevalence of keloid in this study may be attributed to the increasing practice of high ear piercing (piercing of the auricular cartilage), which is both a fashion trend and a traditional custom in India. Srirangaprasad K et al. [1] and Prasad KC et al. [16] reported similar findings in their respective studies.

Among patients with keloid, females constituted 91.7% of cases, which is consistent with the well-established relationship between ear piercing and keloid formation in Indian women. Christoph Folz et al. [21] reported a male-to-female ratio of 1:2.2 in a study on body-piercing complications, and noted that the ear was the most frequently affected site, with high ear piercing as the primary causative factor in 35% of complications. Lane JE et al. [22] additionally demonstrated that individuals who had their ears pierced at or after 11 years of age were significantly more likely to develop keloids (80%) compared to those pierced earlier in life (23.5%). In the present study, the majority of keloid patients were managed with complete excision followed by intralesional triamcinolone acetonide injections at monthly intervals for four months, commencing two weeks postoperatively. This approach mirrors the protocol reported by Srirangaprasad K et al., [1] in which 94% of cases were managed with complete excision combined with intralesional steroid therapy. Rosen DJ et al. [23] reported an 80% success rate with a similar protocol involving intraoperative and postoperative steroid injections in a cohort of 64 patients with 92 ear keloids.

Auricular pseudocyst was managed by aspiration in conjunction with the window/compression method. These findings are in accordance with the study by Malgonde MS et al.,[15] who reported that aspiration combined with a splint is the most effective and least morbid approach, reducing both fluid reaccumulation and patient distress. Lim CM et al. [24] corroborated this, reporting no rapid reaccumulation in patients managed with aspiration followed by compression buttoning. Prasad KC et al. [16] in a study of 116 seroma cases identified trauma as the primary predisposing factor, followed by ear piercing and insect bites- findings that are consistent with the demographic profile of pseudocyst patients in the present study. All four cases of sebaceous cyst were managed by complete excision, consistent with Prasad KC et al. [16] who reported no recurrence following total excision in their 39 sebaceous cyst cases. The consistent management principle across all cystic and fibrous benign lesions in this and comparable studies supports the recommendation of complete surgical excision as the standard of care to prevent recurrence.

5. Conclusion

The present study identified a diverse spectrum of benign lesions of the pinna presenting to a tertiary care ENT centre. Keloid was the most common lesion, predominantly affecting young females in the second and third decades of life, and was strongly associated with ear-piercing practices. Auricular pseudocyst, sebaceous cyst, and dermoid cyst were the next most frequently encountered lesions. A near-equal sex distribution was observed in the overall study population, though specific lesions displayed clear gender predilections. The majority of lesions presented with swelling of the pinna, with or without pain. Complete surgical excision, with adjuvant intralesional steroid therapy for keloid, was the most effective management strategy, with minimal recurrence. Timely clinical recognition, guided by careful history-taking and local examination, is central to preventing cosmetic disfigurement and functional compromise of the pinna.

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