Section: Dermatology

Original Research Article

STUDY OF EVALUATION OF SKIN DISEASES OF EXTERNAL EAR IN OLDER POPULATION: AN INSTITUTIONAL BASED STUDY

Nehabahen T. Solanki[1], Dimpal Sureshbhai Padavi[2], Chiragkumar B. Taviyad[3], Fenilkumar Rohitbhai Patel[4]

[1]Assistant Professor, Department of Dermatology, GMERS Medical College and General Hospital, Rajpipla, Gujarat, India.
[2]Assistant Professor, Department of Otorhinolaryngology, GMERS Medical College and General Hospital, Rajpipla, Gujarat, India.
[3]Senior Resident, Department of Otorhinolaryngology, GMERS Medical College and General Hospital, Rajpipla, Gujarat, India.
[4]PG Resident (IInd Year), Department of Otorhinolaryngology, Parul Institute of Medical Science and Research, Vadodara, Gujarat, India.

Received *: 10/06/2024*
Received in revised form *: 03/07/2024*
Accepted *: 15/07/2024*

Corresponding Author:
Dr. Fenilkumar Rohitbhai Patel,
PG Resident (IInd Year), Department of Otorhinolaryngology, Parul Institute of Medical Science and Research, Vadodara, Gujarat, India.
Email: fenilrpatel9825@gmail.com

DOI: 10.70034/ijmedph.2024.3.52

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2024; 14 (3); 290-292

ABSTRACT

Background: The dermatologic diseases of the external ear draw the attention of various medical specialists, including dermatologists, otorhinolaryngologists, general practitioners, and general and plastic surgeons. The present study was conducted for assessing skin diseases of external ear to older adults.

Materials and Methods: This observational study examined 100 patients with external ear lesions. Clinical data including patient age, gender, lesion location, and types of dermatologic disease were extracted from patient medical records. Data analysis was done using SSPS-22 software.

Results: In terms of lesion distribution, the majority of lesions were found in the earlobe (26, 26%), followed by postauricular lesions (33, 33%). Helix, concha, tragus, crus of helix, antihelix, and triangular fossa accounted for 18%, 7%, 5%, 5%, 3%, and 3% of the lesions respectively. Regarding disease distribution, the most prevalent condition was benign tumor, accounting for 52% of cases, followed by infectious disease (20%). Premalignant disease and malignant tumor were reported in 6% and 18% of cases, respectively, while non-infectious diseases accounted for 4% of the cases.

Conclusion: A significant number of older adults presented with premalignant and malignant diseases, predominantly affecting the antihelix and post auricular region.

Keywords: External ear; Skin.

INTRODUCTION

The dermatologic diseases of the external ear draw the attention of various medical specialists, including dermatologists, otorhinolaryngologists, general practitioners, and general and plastic surgeons.[1,2] The external ear, consisting of the auricle (pinna) and the external auditory canal, is primarily composed of elastic cartilage (except the earlobe) and a small amount of subcutaneous fat, all covered by the skin and its adnexal appendages. The skin of the external ear contains sebaceous glands, sweat glands, and hair. Notably, the external ear is poorly vascularized and has different characteristics on its concave and convex aspects, with varying subcutaneous fat thickness and laxity.[3,4]

The external ear is highly susceptible to damage from trauma, weathering, and inflammation due to its anatomical location. This vulnerability makes it prone to various dermatologic diseases, especially as it is frequently exposed to ultraviolet light, leading to an increased risk of premalignant and malignant conditions in older adults.[5,6] This retrospective study sought to classify and summarize dermatologic diseases of the external ear in older adults, comparing differences based on age.

MATERIAL AND METHODS

This was an observational study carried out from January 2023 to December 2023, examined 100 patients with external ear lesions. Clinical data including patient age, gender, lesion location, and types of dermatologic disease were extracted from patient medical records. Patients over 50 years of age were enrolled. The external ear was divided into various anatomical parts. Dermatologic diseases were classified into infectious diseases, noninfectious inflammatory diseases, benign tumors, premalignant diseases, and malignant diseases. Data analysis was done using SSPS software.

RESULTS

In terms of lesion distribution, the majority of lesions were found in the postauricular region (33, 33%) followed by earlobe (26, 26%). Helix, concha, tragus, crus of helix, antihelix, and triangular fossa accounted for 18%, 7%, 5%, 5%, 3%, and 3% of the lesions respectively. Regarding disease distribution, the most prevalent condition was benign tumor, accounting for 52% of cases, followed by infectious disease (20%). Premalignant disease and malignant tumor were reported in 6% and 18% of cases, respectively, while non-infectious diseases accounted for 4% of the cases. Benign tumor comprised mainly of seborrheic keratosis, Actinic keratosis, Cutaneous horn, Benign adnexal tumour like Cylindroma. Among malignant cases, most common involved malignancies were basal cell carcinoma. Out of 20 cases of infectious diseases, bacterial infection like otitis externa, fungal infections like tinea faceii were the most common entities. Among non-infectious diseases, we observed cases of Psoriasis Vulgaris, Seborrheic dermatitis, contact dermatitis and photodermatitis. 2 cases of Discoid Lupus Erythematosus also showed external ear involvement.

Table 1: Clinical findings of patients

CHARACTERISTICS	No (%)
LESION DISTRIBUTION	
Helix	18(18%)
Antihelix	3(3%)
Concha	7(7%)
Earlobe	26(26%)
Tragus	5(5%)
Crus of helix	5(5%)
Triangular fossa	3(3%)
Post auricular	33(33%)
DISEASE DISTRIBUTION	
Infectious disease	20(20%)
Noninfectious disease	4(4%)
Benign tumor	52(52%)
Premalignant disease	6(6%)
Malignant tumor	18(18%)

DISCUSSION

The external ear, comprising the auricle, external auditory canal, and earlobe, is a susceptible area for a variety of dermatological conditions due to its exposure, unique anatomy, and potential for trauma. Skin diseases affecting the external ear can range from common conditions like otitis externa and contact dermatitis to more serious issues such as skin cancer, presenting a diverse array of challenges for diagnosis and management. Understanding the prevalence and nature of dermatological diseases in the external ear is crucial for effective clinical management and patient education.[7,8]

In our study, the distribution of lesions in the external ear revealed varying patterns, with the post auricular region being the most common site (33%) followed closely by earlobe (26%). Conversely, the helix, concha, tragus, crus of helix, antihelix, and triangular fossa accounted for smaller proportions of the lesions at 18%, 7%, 5%, 5%, 3%, and 3% respectively. When analyzing disease distribution, benign tumors emerged as the leading condition, representing 52% of cases, while infectious diseases were the second most prevalent at 20%. The dermatologic diseases of the external ear, particularly in older patients, present a complex and varied landscape, with distinct patterns of disease distribution across different anatomical locations.[9-11] In a comparative study carried by Kim JK et al which comprised of 269 patients with dermatologic diseases on the external ear, categorizing the lesions into 8 anatomical locations and 5 disease types. The study found that in patients over 60, the most common sites for these diseases were the postauricular region (33.9%), antihelix (19.4%) and the earlobe (12.9%). The postauricular region corresponds with our study whereas they found antihelix as the second common site which in contrast to our study. Benign tumors were the most prevalent, accounting for 53.2% of cases, while malignant and premalignant tumors made up 32.3% and 9.7%, respectively. Notably, premalignant and malignant diseases were more common in older adults, with a higher frequency of occurrence in the antihelix and postauricular area.[11] Another alike study by Villa Lakshmi Kumari et al studied skin

diseases of the external ear in older adults, screening 200 participants over 60 years old. They found that 100 had external ear infections, with a mean age of 57.3 years and a male-to-female ratio of 73:37. The most common infections were otitis externa (60 subjects), otitis media (29 subjects), infectious myringitis (7 subjects), and herpes zoster (4 subjects). Otitis externa was the most prevalent, followed by otitis media, highlighting the importance of proper ear care in this age group.[12] Another study by Chowdhury K et al analysed 240 cases of external ear skin lesions and found that the most common types were infective (43.33%), inflammatory (30.83%), and autoimmune (9.17%). The most prevalent individual lesions were taenia (20.51%), keloid (12.5%), impetigo (9.4%), and seborrheic dermatitis (9.4%). Neoplastic lesions were the least common. The study suggests that with basic knowledge and awareness, many of these lesions can be diagnosed and treated by clinicians, saving patients time, effort, and money.[13] In the case of a persistent, recurrent, or isolated lesion, a biopsy is recommended to confirm the diagnosis. Effective treatment options are curettage, photodynamic therapy, laser therapy, topical 5-floururacil (5-FU), diclofenac, colchicine, imiquimod and retinoid application.[14-15]

CONCLUSION

A significant number of older adults presented with premalignant and malignant diseases, predominantly affecting the post auricular region, earlobe followed by helicx and other areas. Hence, the outer ear is susceptible to various skin lesions and dermatologic conditions, which can be solitary or part of a generalized condition, affecting skin, cartilage, glands, vessels, and hair follicles. The ear's functional and aesthetic importance necessitates careful consideration of its unique anatomical and histological characteristics when treating skin lesions. An interdisciplinary approach combining surgery, dermatology, and otolaryngology is recommended to provide optimal care for patients with outer ear skin lesions, ensuring effective treatment and minimizing potential complications.

REFERENCES

1. Bojrab DI, Bruderly T, Abdulrazzak Y. Otitis externa. Diseases of the external auditory canal. Otolaryngol Clin North Am. 1996; 29:761-782.
2. Stroman DW, Roland PS, Dohar J, et al. Microbiology of normal external auditory canal. Laryngoscope. 2001; 111:2054-2059.
3. Hawke M, Wong J, Krajden S. Clinical and microbiological features of otitis externa. J Otolaryngol. 1984; 13:289-295.
4. Russell JD, Donnelly M, McShane DP, et al. What causes acute otitis externa? J Laryngol Otol. 1993; 107:898-901.
5. Senturia BH, Marcus MD, Lucente FE: Diseases of the External Ear: An Otologic-Dermatologic Manual. 2nd ed. New York: Grune & Stratton; 1980:204.
6. Linstrom CJ, Lucente FE, Joseph EM, et al. Bailey's Head & Neck Surgery and Otolaryngology, Volume 2. 3rd ed. Philadelphia: Lippincott Williams & Wilkins. 2001:1711-1724.
7. Kraus DH, Carew JF, Harrison LB. Regional lymph node metastasis from cutaneous squamous cell carcinoma. Arch Otolaryngol Head Neck Surg. 1998; 124:582–7. doi: 10.1001/archotol.124.5.582.
8. Nordin P. Curettage-cryosurgery for non-melanoma skin cancer of the external ear: excellent 5-year results. Br J Dermatol. 1999; 140:291–3. doi: 10.1046/j.1365-2133.1999.02665. x.
9. Lever WF, Schaumburg-Lever G. Histopathology of the skin. Philadelphia (PA): Lippincott; 1983.
10. Emmett AJ, Broadbent GD. Shave excision of superficial solar skin lesions. Plast Reconstr Surg. 1987; 80:47–54. doi: 10.1097/00006534-198707000-00007.
11. Kim JK, Bae IH, Kim MS, Choi H, Na CH, Shin BS. A Study of Skin Disease of the External Ear in Older Adults According to Anatomical Location. Ann Geriatr Med Res. 2018;22(2):88-93
12. Villa Lakshmi Kumari. Analysis of Skin Diseases of the External Ear in Older Adults at a Tertiary Care Centre. Int J Med Res Prof. 2016; 2(4): 234-36.
13. Chowdhury K, Banerjee S. An observational cross-sectional study of the proportion of cutaneous lesions affecting external ear, presenting to outpatient clinic of a tertiary care medical college in the Eastern part of India. J Evid Based Med Healthc 2021;8(19):1414-1419.
14. Smith SR, Morhenn VB, Piacquadio DJ. Bilateral comparison of the efficacy and tolerability of 3% diclofenac sodium gel and 5% 5-fluorouracil cream in the treatment of actinic keratoses of the face and scalp. J Drugs Dermatol. 2006; 5:156–9.
15. Alexiades-Armenakas MR, Geronemus RG. Laser-mediated photodynamic therapy of actinic keratoses. Arch Dermatol. 2003; 139:1313–20.