

Original Research Article

Clinicopathological study on aural polyp

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ABSTRACT

Background: The study of the aural polyp was undertaken to emphasize various causes of the aural polyp and to highlight the importance of histopathology in the management of these cases.

Methods: 50 patients who attended the ENT outpatient department with aural polyp were taken for the study. Aural polypectomy was done after clinical, radiological evaluation and examination under the microscope. Tissue was sent for histopathological examination.

Results: The most common lesion was found to be Inflammatory polyp (50%), followed by cholesteatoma (30%), chronic non-specific inflammation (10%). Others included abscess (6%). One case each of squamous cell carcinoma and glomus were also reported.

Conclusions: Aural polypectomy, followed by histopathological examination, may uncover serious disease processes and will assist in planning further management in extensive diseases. Though inflammatory polyp is the most common cause, vascular and malignant tumors should also be considered while evaluating the case.

Keywords: Aural polyp, Inflammatory polyp, Cholesteatoma, Biopsy, Histopathological examination

INTRODUCTION

Aural polyp is a proliferation of granulation tissue with chronic inflammatory cells in response to a long-standing inflammatory process.^{1,2} Polyps typically occur due to constant irritation of the ear canal or eardrum. External ear infections, called otitis externa, are the most common cause of this irritation.³

The most common symptoms of an aural polyp are otorrhoea, aural fullness, and a visible mass in the ear. Otagia and bleeding are far less common.² Grossly, the aural polyp is usually solitary, polypoidal with the reddish surface and often friable.⁴

The most frequent causes of aural masses are inflammation, cholesteatoma, abscess, benign, and malignant tumors. Other rare conditions like a foreign

body, glomus tumors, nevus can also present as aural polyps.

Bilateral inflammatory aural polyps have been described in asthmatics with aspirin hypersensitivity and chronic rhinosinusitis with sinonasal polyposis (Samter's triad).^{5,6}

The aim of the study was to to evaluate various conditions presenting as an aural polyp.

METHODS

Patients attending to ENT outpatient department in Maharajah's Institute of Medical Sciences College and Hospital with complaints of aural fullness, ear discharge with clinical examination revealing an aural polyp were selected for the study. A prospective study was conducted among 50 such patients for a period of 18 months from January 2018 to June 2019.

Inclusion criteria

Patients within the age group of 15 to 60 years. Patients with clinical examination finding of aural polyp associated with complaints of aural fullness and ear discharge.

Exclusion criteria

Patients not willing for the study.

Study procedure

A detailed history of onset, duration, and progression of complaints and associated symptoms was taken according to predesigned proforma. Clinical examination including probe test and facial nerve examination was carried out. Otoscopy and otoendoscopic examination were done to know the size and extent of polyp. Radiological examination including X-ray Schuller’s view of both mastoids for all cases and high-resolution computed tomography (HRCT) of temporal bone in select cases with suspicion of cholesteatoma was advised to know the extent of disease in the middle ear, mastoid, and ossicular/bony erosions.

Preoperatively, all cases were given topical antibiotic with steroid drops, topical steroid ointment with systemic antibiotic for 1-2 weeks. Examination under microscope was done. Size and extent of the polyp were noted. Patients not responding to the conservative treatment were posted for surgery. Polyps in the external auditory canal were excised and the base was cauterized. Biopsy was taken for polyps with suspicion of cholesteatoma and vascular tumours and the tissue was sent for histopathological examination. Patients were treated with systemic and topical antibiotics postoperatively. Subsequent management was planned according to the histopathological report. A second stage surgery was planned for cases of cholesteatoma. Patients were followed up to 6 months. No recurrences were observed in the follow up period. Institutional ethical committee approval was taken.

Statistical analysis

Results were tabulated and analysed with latest version of statistical package for the social sciences (SPSS). Results obtained are presented as percentages.

RESULTS

Out of 50 patients, males were more commonly affected than females with a ratio of 3:2. The most common age group affected in the study was between 21-40 years (54%) followed by 41-60 years age group (32%), and 15-20 years age group (14%) (Figure 1).

Inflammatory polyp was seen in 25 (50%), followed by cholesteatoma/mastoid disease in 15 (30%), chronic non-

specific inflammation in 5 (10%), abscess in 3 (6%), glomus in 1 (2%), and squamous cell carcinoma in 1 (2%) as reported by the histopathological examination (Figure 2). Histopathological pictures of the lesions were given in Figure 3 (a-e). Otoendoscopic images were presented in Figures 4 (a-c).

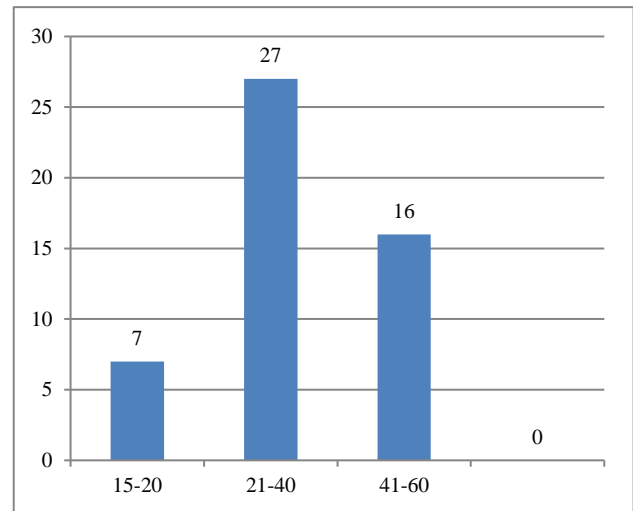


Figure 1: Age-wise distribution of cases.

In Figure 1a, the most common age group affected in the study was between 21-40 years (54%) followed by 41-60 years age group (32%), and 15-20 years age group (14%).

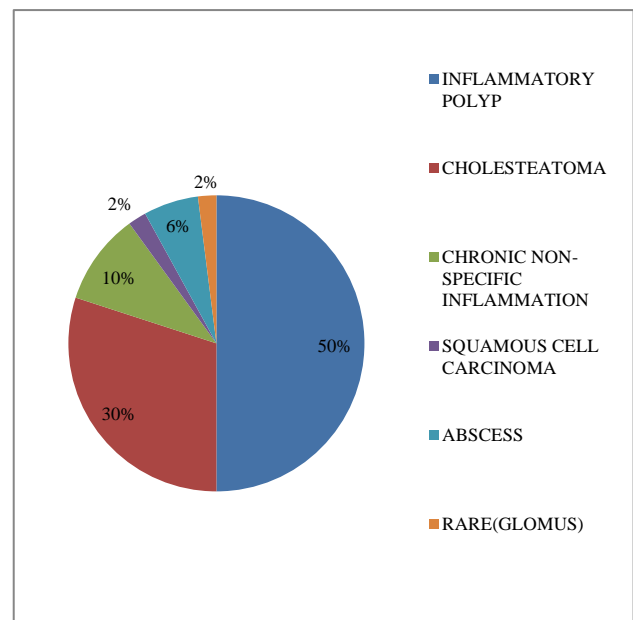


Figure 2: Frequency of distribution of various lesions.

In Figure 1b, inflammatory polyp was seen in 25 (50%), followed by cholesteatoma/mastoid disease in 15 (30%), chronic non-specific inflammation in 5 (10%), abscess in 3 (6%), glomus in 1 (2%), and squamous cell carcinoma in 1 (2%).

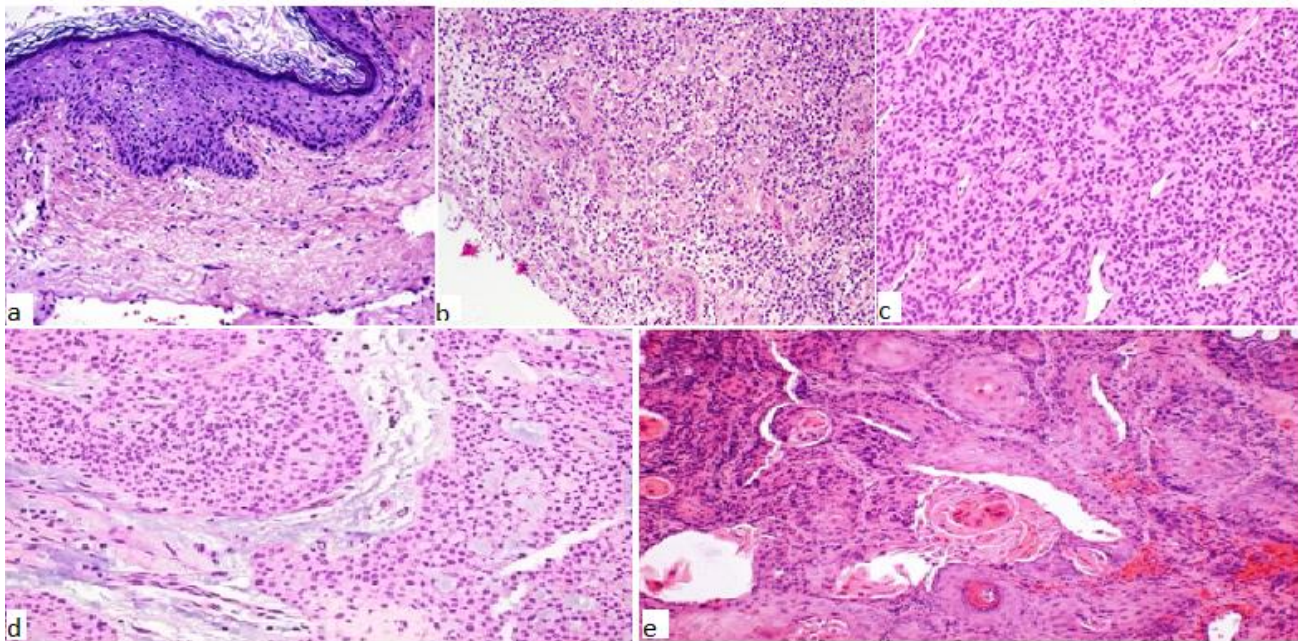


Figure 3: a) Cholesteatoma showing stratified keratinizing squamous epithelium with fibroconnective tissue, b) inflammatory polyp showing lymphocytes, plasma cells with vascularized stroma, c) Microscopy showing sheets of glomus cells surrounding capillary sized vessels, d) microscopy showing glomus with predominant myxoid stroma, and e) microscopy showing well-differentiated squamous cell carcinoma with pleomorphic hyperchromatic nuclei and keratin pearl formation.



Figure 4: a) Endoscopy showing polyp in the external auditory canal, b) endoscopy after removal of polyp in the canal, showing sagging of posterosuperior bony meatal wall, and c) showing multiple polyps in the external auditory canal.

DISCUSSION

In present study out of 50 patients, maximum cases (n=27) were seen among 21-40 years age group followed by 41-60 years. The frequently encountered lesion in the study was inflammatory polyp (n=25), followed by cholesteatoma (n=15). Chronic non-specific inflammation and abscess were seen in 5 and 3 cases respectively. One case each of Squamous cell carcinoma and glomus tumor were reported. These findings were similar to a study conducted by Gliklich et al and Agarwal et al.^{2,3}

Histopathological analysis of surgical specimens after simple aural polypectomy is essential in confirming the

diagnosis, discovery of unusual lesions, and also assists in the subsequent management of the patients.

In most cases, polyps were seen arising from the external auditory canal and from the middle ear through a perforated tympanic membrane. Histopathology showed varying degrees of edema, submucosal fibrosis, hypervascularity, and infiltration with lymphocytes, plasma cells, and histiocytes reporting these cases as Inflammatory polyp or chronic non-specific inflammation. Tawab et al in a case report with persistent left ear discharge and a reddish mass in the ear, concluded that aural polyp that is resistant to medical treatment should raise the suspicion of an inflammatory polyp with underlying chronic suppurative otitis media or foreign body.⁷

In some instances, the polyp was seen in continuity with mastoid eroding the posterior bony external auditory canal. In few cases white flakes were seen in posterosuperior retraction pocket after removal of a polyp, which on histopathological examination revealed as cholesteatoma, consisting of stratified squamous epithelium, keratin, and sub-epithelial fibrous or granulation tissue. Milroy et al mentioned aural polyps as predictors of underlying cholesteatoma.⁸ The finding of a combination of raw granulation tissue, with keratin as masses or flakes in an aural polyp, makes the presence of an underlying cholesteatoma highly likely.

In our study, a 60 years old male presented with ear discharge, recurrent bleeding, and aural polyp. Microscopy showed sheets of glomus cells surrounding capillary sized vessels with predominant myxoid stroma giving the impression of glomus tumour. Kindy et al in his case report mentioned that large aural polyps can mask the characteristic histopathological features of vascular tumours and that glomus tumour should be considered in differential diagnosis of similar cases.⁹

In the present study, 16 years old female presented with earache, ear discharge, bleeding episodes and aural mass which was not responding to conservative management. Biopsy was done. Histopathological features showed well differentiated squamous cell carcinoma with pleomorphic hyperchromatic nuclei and keratin pearl formation. Radical surgery followed by postoperative radiotherapy gives a better result in cases of squamous cell carcinoma in ear. Vidya et al reported unusual presentations of SCC in ear, in which he concluded recurrent aural polyps to be sent for HPE irrespective of age and clinical presentation.¹⁰

CONCLUSION

Aural polyp should be evaluated thoroughly by clinical, radiological, and histopathological examination. Aural polypectomy, followed by histopathological examination, may uncover serious diseases processes and will assist in planning the correct further management. High resolution computed tomography of the temporal bone is very helpful in assessing the disease process and a valuable adjunct to the microscopic examination.

Simple polypectomy without proper confirmation of the specimen by histopathology and proper management of the exact disease process would lead to recurrences and devastating complications. Vascular and malignant tumors should also be considered while evaluating aural polyps. Good follow up of all the patients with aural polyps is required to confirm the adequacy of the treatment given and check for recurrence.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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