Pathological Lesions of the External Ear : A Study of 500 Cases

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Abstract

A study of pathological lesions of the external ear was carried out during the period of two years. All 500 cases were grouped in four categories, Congenital, Injury, Infection and Cyst and Tumors. Distribution of lesions in age groups and both sexes was studied. Cases were examined to know the etiology, bacteriology and clinical presentation of the lesion. The results of the treatment were evaluated.

Key words : Lesions of the external ear, Otitis externa, Otomycosis.

Head and its chief information gatherers the eyes, ears and the nose are strategically positioned above the rest of the body. However the drawback of this location is the increased exposure to various diseases. Apart from congenital malformations, other problems include trauma, inflammation, infection, allergy and new growths.

To know the etiology, pathology, bacteriology, clinical presentation and the effect of treatment modality on various lesions of the external ear, a systematic study was carried out during July 1994 to June 1996. This paper reports the details of the study of 500 cases.

Aims

1. To study various pathological lesions of the external ear.
2. To study their distribution in various age groups and both sexes.

3. To study etiology, bacteriology and the clinical presentation.
  4. To evaluate the results of treatment.
- Pathological lesions of the External Ear

Material & Method

The cases studied include patients attending ENT OPD and those referred by skin OPD, paediatric OPD and burn wards. These 500 patients were classified in different age groups in both sexes. Each patient was evaluated by detail history and examination to reach a provisional diagnosis of the pathological lesion.

In cases of infection, pus sample was collected by sterile cotton swab. The bacteria were identified by morphology colony characteristics and biochemical tests. Antibiotic sensitivity test was performed. In suspected cases of otomycosis, two ear swabs or scraping of debris were collected. In positive culture, where

years was grown, microscopy and germ tube test were carried out for the accurate identification of species.

Observation

Pathological lesions were studied in groups, Congenital, Injury, Infections and Cysts and tumors. The table 1 shows distribution of the pathological lesions in different age groups.

Clinically patients presented with symptoms like earache, ear discharge, deafness, tinnitus, blocking sensation and itching. This is shown in table 2.

Bacteria grown in culture were Staph aureus, Ps. aeruginosa, E. coli, Klebsiella, B. proteus, Beta-haemolytic streptococci, Pneumococci and Coagulase - ve staphylococci, (table 3). Fungi isolated were Aspergillus species in maximum number followed by Candida, Penicillium and Rhizopus (table 4).

Benign lesions observed were osteoma, Keloid, naevus, seroma and sebaceous cyst of the pinna. A single case of squamous cell carcinoma was encountered.

Results and Discussion

Once the diagnosis was confirmed after investigations, patients were managed accordingly.

All cases fell within age group of 0 to 76 yrs. The cases were maximum in age group 21-30 yrs. i.e. 168 cases (33.6%) and least in the age group >60 yrs. i.e. 7 cases (1.4%). Out of 500 cases, males were 295 (59%) and females were 205 (41%). The distribution according to the pathological lesions was Congenital - 16 (3.2%), Injury - 81 (16.2%), Infections - 369 (73.8%) and Cyst and Tumors - 34 (6.8%)

A. Congenital Lesions

The cases observed were of anotia (fig. 1) microtia, atresia and haemangioma (fig. 2). Those cases which showed sensorineural deafness, suggestive of inner ear anomaly were

advised hearing aid. Intralesional injection of the sclerosant, Ethoxysclerol was tried in case of haemangioma. As patient had multiple haemangiomas over oropharynx, arm, chest, he was advised laser therapy.

Fig.1 Anotia

Fig.2 Haemangioma

B. Injuries

Out of total cases of injuries, 59 (72.84%) were caused by mechanical trauma and 22 (27.16%) were due to thermal trauma. Mechanical injuries were caused by vehicular accidents (fig. 3). Haematoma of pinna was the cause for cau-

Fig.3 Vehicular Accident

Fig.4 Cauliflower Ear

Fig.5 Diffuse Otitis externa

liflower ear deformity (fig. 4). Lacerations to the canal were due to hair pin, nail, matchstick or plastic pen. Traction of ear ring led to split ear lobule. These results agree well with those reported by Waike J. (1985) and Templer et al (1990).

Fig.6 Perichondritis of Pinna

Table No. I

Distribution of all pathological lesions in various age groups.

Age Group (years)	Pathological Lesions	Percentage
0 - 10	92	(18.4%)
11 - 20	124	(24.8%)
21 - 30	168	(33.6%)
31 - 40	72	(14.4%)
41 - 50	21	(04.2%)
51 - 60	16	(03.2%)
>60	7	(01.4%)

Lacerations which caused gaping were sutured after removing the necrotic cartilage. In thermal injury patients, meticulous salvage, daily

Fig.7 *Derrier's Disease* causing stenosis of the external auditory Canal

Fig.8 *Herpes zoster infection (Ramsay Hunt Syndrome)*

Table No. II : Clinical presentation of infections
Bacterial cases were 216 and fungal cases were 152.

Symptoms	Bacterial (%)	Fungal (%)
Earcche	190 (87.96)	90 (59.21)
Ear discharge	152 (70.37)	75 (49.34)
Deafness	65 (30.09)	55 (36.18)
Tinnitus	22 (10.19)	50 (32.89)
Blocking sensation	129 (59.72)	127 (83.55)
Itching	147 (68.06)	130 (85.52)
Fever	86 (39.81)	—

dressing with vaseline sheet and povidone iodine along with antibiotics gave good results. *Ps. aeruginosa* was cultured from the pus in most of the cases.

C. Infections

The cases of bacterial infections were 216 (58.54%), fungal were 152 (41.19%) and viral was 1 (0.27%). The bacterial infections noticed

Fig.9 *Squamous cell carcinoma of the External Auditory canal*

were diffuse otitis externa (fig. 5), furuncle, perichondritis (fig. 6), stenosis secondary to skin disease (fig. 7). Antibiotic given was Penicillin orally for 48-72 hrs. It covered bacterial spectrum, *Ps. aeruginosa*, *Staph. aureus*, *E. coli*, Coagulase - ve staph. and *Bacillus proteus*. In unresponsive cases, Erythromycin, Ampicillin, Cloxacillin or Chloramphenicol gave good results in one week. Analgesics were used in painful conditions. In cases of furuncle, and perichondrial abscess, incision and drainage was performed. All patients were advised to keep ear dry, prevention from scratching,

Table No. III. Different Bacteria grown in 216 Cases.

Bacteria	Cases	Percentage
1. <i>Staph. aureus</i>	132	61.11
2. <i>Ps. aeruginosa</i>	70	32.41
3. <i>E. Coli</i>	40	18.52
4. <i>Klebsiella</i>	30	13.89
5. <i>B. Proteus</i>	20	09.26
6. <i>B. Hemolytic strobotococi</i>	03	02.31
7. <i>Pneumococci</i>	02	0.03
8. Coagulase - ve staph.	08	08.70

cleaning of nails and vestibule.

Otomycosis constituted 30.4% of all 500 cases and 41.19% of infections. Similar results were reported by Ismail H.K. (1962). Recently Muglistan T. et al (1985) have reported fungal infection as a cause of otitis externa. Out of 152 cases fungal culture was positive in 86 cases (56.58%). After the diagnosis of otomycosis was made, the treatment given was, meticulous cleaning of the external ear,

avoidance to trauma to prevent secondary infection by bacteria. Antifungal agent clotrimazole gave good results when used as drops and ointment. In cases of recurrence where bacterial infection alongwith fungal infection was suspected, use of combination of antifungal and antibacterial ear drops produced dramatic results.

Excessive humidity was the important factor in growth of fungi. Fungal cases were maximum in rainy season & winter. Our findings are similar to those reported by Paulose et al (1989), Jaiswal (1990), Kulkarni et al (1994).

There was a single case of viral infection. The clinical diagnosis was Herpes Zoster (fig. 8). Patient was treated by steroids and antiviral drug Acyclovir. Local lesions were paid attention by steroid based antibacterial ointment.

D. Cysts and Tumors

Case of osteoma, occluding deep part of the meatus was noticed. The mass was curetted out completely and the canal wall was smoothened

with polishing burr. Naevus and keloid over the pinna were removed completely and post-operative skin grafting gave good cosmetic result. The onset of seroma was insidious and had tendency to reaccumulate after aspiration. Repeated aspiration and pressure bandage healed the condition. Sebaceous cyst was diagnosed & surgical excision was the treatment followed. Distinguishing features of cystic swelling have been described by Lapins A et al (1982). We have observed similar characteristics of the cystic swellings in our study.

The squamous cell carcinoma (fig. 9) was diagnosed on histopathology of the biopsy from growth in canal. There was no facial palsy. Preauricular lymphadenopathy was present. Treatment preferred was radical mastoidectomy and radiotherapy. Similar line of management have already been reported by Kinney et al (1987) and Shih L et al (1990) while studying the malignancies of the external ear. Our approach, therefore, appears to be proper.

Table No. IV : Fungal species isolated.

Fungus	Cases	Percentage
1. Aspergillus species	62	72.09
• Asp. niger	43	69.35
• Asp. fumigatus	14	22.59
• Asp. flavus	05	08.06
2. Candida albicans	20	23.26
3. Penicillium	03	03.49
4. Rhizopus	01	01.16

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