Otolaryngologic and Audiologic Findings in a Cleft Palate Population

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PALATAL cleft occurs as a result of the failure of fusion of the palatal processes during the sixth week of intrauterine life. The high incidence of various otolaryngological disorders and increased incidence of deafness in the cleft palate population is well documented in the medical literature. In majority of the hospitals, cleft palate is dealt with by the plastic surgeon and the E.N.T. services are availed only if one of the presenting complaints of the patient demands. Holmen and Reed (1955), Bennet, Ward and Tait (1968) in their review of the cleft palate patients have reported that the incidence of aural pathology was much higher than expected on the basis of history and presenting complaint alone.

Aims and Objects

1. To find out the ear, nose and throat problems in a group of cleft-palate patients;
2. To determine the type of deafness and its incidence in this population.

Material and Methods

One hundred and thirteen patients of various grades of cleft palate and lip attending the plastic surgery outpatient department of the Nehru Hospital attached to the Post-graduate Institute of Medical Education and Research, Chandigarh during the year 1976-77 were included in this study. The age of the youngest patient was one month and a half and that of the oldest patient was 30 years. The relevant history and otological findings of all the cases were recorded in a proforma specially prepared for this purpose.

Puretone audiometry was done using a Beltone 15-C audiometer calibrated to ISO specifications in a sound-treated room, making sure that the ear canals were free from wax.

Observations and Findings

Table I
Throat Examination

Finding	No. of Cases	Percentage
Adenoid hyperplasia	27	23.9%
Chronic tonsillitis	20	17.7%
Pharyngitis	13	11.5%

Table I shows that 20 (17.7%) out of the

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113 patients examined had chronic tonsillitis. The adenoid hyperplasia was noted in 27 (23.9%) cases and pharyngitis was found in 13 (11.5%) of the cases.

With regard to the nose examination, 96 (84.9%) cases had grossly deviated nasal septum, 11 (9.7%) had rhinosinusitis and 9 (7.9%) had nasal allergy (Table 2).

Table 2
Nose

Finding	No. of Cases	Percentage
Deflected nasal septum	95	84.9%
Rhinosinusitis	11	9.7%
Allergic rhinitis	9	7.9%

Laryngeal examination could be done on 65 patients (53.1%) and one (1.3%) was found to have vocal nodule and one (1.3%) had thickened vocal cords (Table 3).

Table 3
Larynx Examination

Total cases examined	65	53.1%
Vocal nodule	1	1.3%
Thickened vocal cord	1	1.3%

All the 226 ears (113 patients) were examined after removing the wax and or debris if any. Tympanic otoscopical findings suggestive of secretory otitis media were seen in 29 (12.9%) ears and retracted tympanic membrane was found in 24 (10.6%) ears. Healed perforation was found in 3 (1.3%) ears and 5 ears had active discharge (2.2%) as shown in table 4.

Table 4
Ear Findings

Healed perforations	3	1.3%
Retracted tympanic membrane	24	10.6%
Secretory otitis media	29	12.9%
Adhesive otitis media	5	2.2%
Discharging ears	31	13.7%

Among the 226 ears, reliable threshold measurements could be done in 158 ears only. Based on the pure tone average for speech frequencies, 55 ears had a conductive deafness (34.8%) upto 25dB. Sensorineural loss with little or no air bone gap was found in 2 ears (1.2%). This puts the total number of cases with deafness at 81 (51.2%). In the remaining ears the hearing was normal.

Table 5
Audiometry

Total No. of ears tested	158	69.91%
No. of cases with normal hearing	77	48.8%
No. of cases with a hearing loss	81	51.2%
Conductive deafness upto 25 dB	55	34.8%
Conductive deafness more than 25 dB	24	15.2%
S—N deafness	2	1.2%

Discussion

There are quite a few published articles in the literature that report a high incidence of secretory otitis media in the cleft palate population—Stool and Randall

(1967) have reported middle ear fluid in as many a 49 cases out of the 50 that they studied, Paradise and Bluestone (1968) have reported that all the 29 babies under 19 months of age whom they studied, had at least one episode of middle ear pathology during the follow up period of four months. Out of the 172 cases of cleft palate, examined by King (1972) all but two had signs of secretory otitiis media at some time or the other. In this study 12.9% of the cases were found to have secretory otitis media and it was observed that it is more often found in younger children than in grown up children and adults.

Incidence of two cases of laryngeal pathologies out of 65 examined, as is in the present study is comparable to the study of Lowry, Billings and Leonard (1974) who also have reported two cases out of the 74 they examined.

Halford and Ballenger (1956) have reported 37 cases of hearing loss of more than 20 dB out of the 65 cleft palate patients that they examined (54.2%). Miller (1956) has reported that 54.4% of his cleft palate patients had a hearing loss. Drettener (1960) has reported the incidence of hearing loss in cleft palate population at 49% and Bennet et al (1968) have reported it as 80%. The incidence of hearing loss in a cleft population at 51.2% as was found in this study is in keeping with all but the last study cited above.

Conclusions

1. Otological abnormalities are associated with cleft palate.
2. Hearing loss of different degrees also co-exists with these abnormalities.
3. From the above two it follows that all the cleft palate patients under the care of the plastic surgeon should be referred to an otolaryngologist to facilitate early detection and management of the problems.

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