

Incidence of Otosclerosis in the Three Ethnic Groups in Malaysia

by *Dr. R. D. Ponniah*
 MB, BS(Cey), FRCS(Ed), DLO(Lond)

and *Dr. Y. H. Chin*
 MB, BS(Melb.), FRCS(Ed)

Introduction

OTOSCLEROSIS is the primary focal disease of the labyrinthine capsule that may in some cases involve the oval window causing fixation of the stapes; in the other cases, it causes cochlear degeneration or a combination of both. In this study a diagnosis of otosclerosis was made if the patient complained of unilateral or bilateral hearing loss of insidious onset, progressive in nature and unaccompanied by earache or otorrhoea. The otological examination of these patients revealed a normal tympanic membrane and clinical conductive deafness. This was supported by an audiometric conductive deafness, and at operation the footplate was confirmed as being fixed.

Material & -ethods

In Peninsular Malaysia's multi-racial population of 9.4 million, the Malays form 50.7%, the

Chinese 36.2% and the Indians 11% (Chander 1972). Up to date no study of otosclerosis has been made either in the whole country or in each of the three ethnic groups. The following study is an attempt to determine the relative incidence of otosclerosis in each of the 3 major ethnic groups, represented by the patient population of 15,700 new patients seen at the ENT clinic of the University Hospital over a period from August 1970 to August 1975.

Table I – Shows the distribution of otosclerosis in the ethnic groups in the total number of patients seen in this clinic.

Table II – Shows the number of cases of otosclerosis in the ethnic groups among the total number who presented with hearing loss between August 1970 – August 1975.

Table 1

	Malays	Chinese	Indian	Total
New Cases Attending ENT Clinic From August 1970-75	2574 (20%)	8909 (54%)	4218 (26%)	15700
No: Of Otosclerosis 1970 – 1975	4 (12%)	10 (30%)	19 (58%)	33
Incidence	1: 640	1: 890	1: 220	

Table 2

	Malays	Chinese	Indian	Total
Total No: Of Patients With Deafness 1970-75	308	997	448	1753
No: Otosclerosis	4	10	19	33
Incidence	1: 80	1: 100	1: 20	

Discussion

There is very little information available on the racial distribution of otosclerosis in South East Asia. Mawson (1963) states that the incidence in the general population in England is 1:200. Larsson (1952) found unilateral otosclerosis as high as 15% in his cases. Guild (1944) studied 1,161 temporal bones, equally divided between Whites and Negroes. He found the racial incidence of histological otosclerosis to be 1:12 for the Whites and 1:96 for Negroes. In Peninsular Malaysia the incidence as seen among the ethnic groups is Malay 1:640, Chinese 1:890 and Indians 1:200.

Kapur and Patt (1966) have found that the incidence of otosclerosis in South India is 30 – 31% of all patients with hearing loss. In our study the incidence among the Indians in Malaysia is only 5% of those with hearing loss. In the other ethnic groups it is even less, being 1.25% in Malays and 1% in the Chinese.

In the Indians in Malaysia the reason for the higher incidence would be explained by the fact that consanguineous marriages are very common among them, unlike in the other two ethnic groups. Morrison (1967) found a definite hereditary tendency in 70% of his patients.

Most of the above patients had been to several general practitioners before being diagnosed and

operated on here. Many may as yet be undiagnosed since many general practitioners are still unaware of this form of deafness, and also of the possibility of its treatment by surgical intervention.

Summary

The incidence of otosclerosis in the different ethnic groups attending the University Hospital over the five year period 1970-1975 is outlined. It is noticed that there is a significant increase in the incidence of this condition among the Indian races.

Acknowledgement

We wish to thank Professor I.M. Farquharson for reviewing the article, Encik Maznan bin Haji Dahalin for the illustrations, and Miss A.M. Tan for the secretarial assistance.

References

- Guild, S.R., 1944: Histologic Otosclerosis, *Ann Otol.*, 53, 246.
- Joseph, R.B., Frazer, J.P., 1964: Otosclerosis Incidence in Caucasians and Japanese, *Arch. Otolaryng.* (Chic), 80, 257.
- Kapur, and Patt, 1966: Otosclerosis in S. India, *Acta Otolaryn.* (Stockh) 61, 353.
- Larsson, A., 1960: Otosclerosis, A Genetic and Clinical Study, *Acta. Otolaryn.* (Stockh) Supp., 154.
- Mawson, S.R., 1963: Otosclerosis. *Diseases of Ear*, Chapter XVI, p. 412, Edward Arnold (Publishers) Ltd., London, England.

