Exostoses of the External Auditory Meatus

by

Dr. A. SINHA.

Mr. Chairman, Ladies & Gentlemen,

The Subject of this discussion ‘Exostoses of the External Auditory Meatus’ is not a common condition. But what has impelled me to choose this subject for this discussion is the fact that as with many other diseases the features of a disease as met with in our country is not quite the same as mentioned in most text-books and in foreign literature. Neglect of diseased parts is an important factor. This adds new features to the disease—which it will be beneficial to keep in mind when making diagnosis and in treatment. Later in this discussion I will present to you two cases of exostoses of the e.a.m. with some interesting features. And, as I have already said, this disease is rare, and I feel it may be worthwhile to refresh your memory about some of its features in general as we understand them.

Exostoses are a variety of osteomas arising from the surface of the bone. When they arise in the centre of the bone they are known as enostomas. The skull bones form not an unusual site of exostoses and one which interests the otologist are the exostoses of the external auditory meatus. They may be single or multiple, uni-lateral or bilateral.

This condition was discussed at the Section of Otolaryngology, Royal Society of Medicine in U.K. in February, 1922 and again in December, 1948. Reference was also made to this condition by G. P. Field, who was Aural Surgeon, St. Mary’s Hospital, London, in his manual of ‘Diseases of the Ear’ 4th edition, 1893.

PATHOGENESIS

The whole of the bony portion of the external auditory meatus is developed from the bone which embryologically is ossified in membrane. Hence osteoma arising from its walls are
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Ivory in nature. This, as a group, has to be distinguished from the type of Hereditary multiple exostoses also called Diaphyseal acalasia. This latter condition appears as a disturbance of growth of cartilage and bone in the region of the metaphyses. It results in multiple lesions—similar in structure to benign tumour of bone and cartilage. This disease ceases when skeletal development is complete. But in cases of exostoses of the external auditory meatus, the disease takes an uncertain course as the exact pathogenesis is obscure. References are available in literature associating the condition to sea bathing and diving, most of which are bilateral. It is particularly said to be common in cold water swimmers. In 1937, at Venice, these tumours were reviewed and it was said that exostoses of the external auditory meatus was relatively uncommon in Italians, probably due to their bathing in the warm water of the Adriatic. The Dutch who swim in the cold water of the North Sea show a much higher incidence in meatal exostoses.

Professor VanGilse in Acta-otolaryngologica, 1938 also expressed the opinion that swimming may have relationship to the occurrence of exostoses of the external auditory meatus. He, however, did not feel that there was much difference in the effects of the sea and fresh water swimming. Fowler and Osmun (1942) suggested that cold water bathing might produce vaso-constriction of the vessels of the external bony canal, and this reduction in blood supply in potentially osteogenic tissues could precipitate new bone formation. Later studies, however, both experimental and clinical observations, according to Harrison (1951), it is suggested that it was the prolonged vasodilatation that follows presence of cold water in the deep meatus which was responsible for the changes noted and not the relatively short period of vaso-constriction which occurs while the water is actually in the canal. Experimental observations were done by Fowler using water at 90 centigrade to irrigate the external canal of the guineapig. Harrison has also gone into a consideration of the comparative anatomy of the external auditory meatus of various aquatic vertebrates. He had suggested that the meatal stenosis is commonly found in such animals.