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Otogenic tetanus: Case presentation

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Abstract

TETANUS resulting from ear injury is extremely rare. However, the otologist should be aware that it does occur. A case of otogenic tetanus recently treated by the authors is presented.

In Western countries tetanus is now a rare disease because of extensive immunization programmes. Otogenic tetanus is extremely uncommon in North America, but occurs more frequently in tropical regions (De and De, 1970).

Less than forty new cases of tetanus are seen in the Province of Ontario (population, 8·4 million) each year (Department of Statistics, Government of Ontario).

It has been stated that the operative treatment of otogenic tetanus should include radical mastoidectomy (Black and Atkins, 1972). This is probably true in severe cases but milder cases do not require this form of therapy.

Most children in Canada receive primary immunization with Diphtheria, Tetanus and Pertussis vaccine (DTP) in the early years of life. However, especially in large urban centres, there is a large non-immunized or partially immunized immigrant population.

Tetanus occurring in such an immigrant is described.

Case history

In December, 1975, a 26-year-old black male from the West Indies sustained a traumatic perforation of the right ear drum. This resulted from cleaning his ear with a cotton-tipped swab. He presented to the Emergency Department of his local suburban hospital. No description of the findings at that time are available. He was given a prescription for oral tetracycline. Three days after the injury, he developed tightness in the upper and lower jaws associated with a feeling of neck stiffness and a sensation of choking.

Several hours after the onset of these symptoms, he presented at the Emergency Department of a Toronto teaching hospital. While being examined in the Emergency Room, he developed spasm of the abdominal muscles. This improved rapidly following the administration of 5 mg. of Diazepam intravenously.

On examination, there was a large perforation in the postero-inferior quadrant of the right tympanic membrane. Using the 512 Hertz tuning fork, the Rinne test was positive on the left, negative on the right, and the Weber lateralized to the right ear. There was a small amount of yellowish discharge present in the ear canal. The patient was afebrile. Increased tone was noted in the neck muscles and the muscles of mastication.

On clinical grounds, a diagnosis of tetanus was made. In the Emergency Department, he was given 0·6 cc. of Tetanus Toxoid and 750 units of tetanus immune globulin intramuscularly. He was admitted to the Intensive Care Unit

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where he was given 2,000,000 units of penicillin-G every six hours intravenously. Antibiotic drops were instilled in the ear canal.

The patient remained in the Intensive Care Unit for forty-eight hours. He was nursed in a darkened room with seizure precautions, and he made an uneventful recovery.

Culture of the material in the ear canal at the time of admission revealed a light growth of Staphylococcus aureus. An anaerobic culture was also performed, but this yielded no growth.

The patient was discharged from hospital after seventy-two hours. He did not return for formal audiometric examination and was lost to follow-up until two years later.

At that time, he had no symptoms referable to his ears. However, on examination, the right tympanic membrane showed evidence of a healed central perforation. Using the 512 Hertz tuning fork, the Rinne test was positive bilaterally and the Weber was heard in the right ear. Audiometric examination confirmed the presence of a small low tone conductive hearing loss on the right side.

This case illustrates the importance of consideration and prompt detection of tetanus arising from ear injury. Prompt diagnosis and treatment as illustrated in the above case history can result in a minor, rapidly resolving illness. Late diagnosis and treatment may have fatal consequence.

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