SALMONELLA DUBLIN AS A CAUSE OF CHRONIC OSTEOMYELITIS

Report of a Case

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The problem of treatment of chronic osteomyelitis with sinus formation, with or without sequestration, is one of the most difficult that confront the orthopaedic surgeon. The disease is often resistant to all forms of treatment and amputation may be necessary to forestall the development of general effects of chronic suppuration. The case to be described suggests that our views on the causative organism in at least some of these cases are too stereotyped, and a more thorough search may show that the common organisms—staphylococcus aureus, streptococcus, pneumococcus—are not always responsible.

CASE REPORT

A man aged twenty-nine years attended the orthopaedic clinic with discharging sinuses on the front and lateral aspects of his left thigh of fourteen years duration. He gave a history of subacute osteomyelitis at the age of twelve years, which was treated by incision, gauze packing and rest in a Thomas splint. About two years after he had been discharged from hospital a fresh abscess developed below the original site and he was again admitted to hospital. No bacteriological records are available. Two years ago he received a short course of penicillin therapy which lessened the discharge but did not heal the sinuses.

On examination, the left thigh and calf muscles were considerably wasted. The scars of two incisions were present on the thigh, the upper one being healed and the lower one broken down to form a small sinus. Other larger sinuses were present on the front and back of the thigh. The exudate was sero-purulent. The knee joint was ankylosed in full extension.

Radiographic examination showed two large sequestra involving the full diameter of the midshaft of the femur with involucrum formation in which the sequestra were almost completely embedded. Bacteriological examination of the pus showed staphylococcus aureus which was found to be resistant to penicillin but sensitive to streptomycin.

Treatment—Sequestrectomy was undertaken, the sinuses and much diseased tissue were excised and the wound was closed completely. The limb was then immobilised on a Thomas splint and a course of streptomycin begun.

Progress—The wound broke down in several places, forming new sinuses, and the posterior and lateral sinuses had opened up further. Meanwhile a bacteriological report on the examination of the excised material indicated an almost pure growth of a coliform bacillus of the salmonella type, no staphylococcus aureus being found in the specimen. The same organism was isolated from pus from the recent sinuses, but no organism of the salmonella group was discovered in the faeces. The organism was investigated further and identified as Salmonella Dublin. Because of the rarity of this organism as a pathogen, confirmation of identity was sought from the Salmonella Reference Laboratory and was found to be correct. The organism was sensitive to chloromycetin and it was decided to try the effect of this drug. Doses of 0·6 gramme were given every four hours and continued for thirty-six days. The discharge from the sinuses ceased after fourteen days and the sinuses were completely healed when the drug was discontinued. Four months after the operation serum agglutination against Salmonella Dublin "H" was positive at 1/50.
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DISCUSSION

The clinical course and bacteriological finding suggest that this was a primary salmonella infection of bone which became secondarily infected by staphylococcus aureus. Other cases of bone infection by salmonella have been described by Krauss (1947), and in a review of the literature Ramon Guerra, Peluffo and Aleppo (1940) found fifteen authentic examples. Vinke and Downing (1947) described a case of infection of the knee joint by an organism of the salmonella group.

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REFERENCES

