DEFINITION

1. **Osteomyelitis** is an inflammatory condition of the bone marrow and adjacent bone. It may be acute or chronic.

ACUTE OSTEOMYELITIS

2. Acute (infective) osteomyelitis used to be a common and serious disease in children but an improvement in the general health of children and the introduction of antibiotics have rendered the disease less serious.

CLINICAL MANIFESTATIONS

3. Pain is the presenting symptom, with an acute onset of fever and malaise. Localised tenderness of an area of bone is the essential sign and if this tenderness lies over the metaphysis of a long bone the diagnosis of acute osteomyelitis should be presumed until proven otherwise. Localised swelling, heat and abscess formation follow. The haematogenous osteomyelitis which occurs in the neonate presents a rather different picture from the disease of the older child.

4. Complications of acute osteomyelitis include septicaemia, pyaemia with metastatic abscesses, secondary involvement of an adjacent joint, spontaneous fracture, deformity, and chronic osteomyelitis.

AETIOLOGY

5. In the usual form of the disease, occurring in children, the bacteria reach the bone by the blood stream. A primary focus of infection maybe obvious in the form of a boil or infected graze, but not uncommonly there is no obvious source of infection. The blood borne infection usually takes the form of a bacteraemia, but can result from a frank septicaemia or pyaemia.

6. The usual causative organism is staphylococcus aureus. Other organisms which may be responsible include the streptococcus, pneumococcus, haemophilus influenzae, staphylococcus albus, and a number of other organisms.

7. It is the presence of dead infected bone which is difficult to resorb, and the fact that the intra-osseous abscess cavity cannot be obliterated because of its rigid walls, which give rise to the persistence of the disease.

8. **Acute traumatic osteomyelitis** deserves separate discussion. It arises as a result of infected wounds, such as compound fractures or operations on bones including joint replacement. The constitutional disturbances are less severe than in the usual, childhood, form of acute (infective) osteomyelitis, as the causative wound provides a portal of drainage as well as entry of infection.

CHRONIC OSTEOMYELITIS

CLINICAL MANIFESTATIONS

9. Chronic osteomyelitis may remain quiescent for months or years, but from time to time acute or sub-acute exacerbations occur. An exacerbation is ushered in with constitutional upset and local evidence of inflammation.

10. Amyloid disease may complicate chronic osteomyelitis but only occurs if a copious discharge of pus has persisted for some years.

AETIOLOGY

11. Chronic osteomyelitis may result from a gradual transition from an acute osteomyelitis, particularly if a sequestrum forms in the acute condition.

12. Commonly, a large volume of bone is involved. When the infection is closely contained, a chronic abscess within the bone forms, surrounded by a sclerotic bony rim. This is known as a Brodie's abscess. The lesion may be the sequel to a pyogenic septicaemia from which the patient has recovered, or may be metastatic spread from a distant bone affected by acute osteomyelitis. It may remain dormant for many years.

13. Tubercular and actinomycotic infection may also cause chronic osteomyelitis.

14. Chronic osteomyelitis may also follow radiation damage, especially in the jaw after therapeutic irradiation of the jaw.

CONCLUSION

15. **Osteomyelitis** is an inflammatory condition of the bone marrow and adjacent bone. It may exist as acute or chronic forms and results from the introduction of an infectious agent to the bone or as a result of radiation damage to the bone.

REFERENCES

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