

Lateral radiographs of the knee should show good trabecular detail and include the mid shaft of the femur to the mid shaft of the tibia. Correlation of the radiographic and pathological findings is of considerable value and importance in identifying the earliest radiographic features of osteonecrosis with confidence and differentiating this from variation in normal trabecular structure.

Pathology of Caisson Disease of Bone MARY E. CATTO (*Department of Pathology, Western Infirmary, Glasgow*) While histological examination is of little help in elucidating the pathogenesis of aseptic bone necrosis in compressed air workers, it throws some light on the sequence of events and radiological changes following bone death. Revascularization of both medullary and juxtaarticular lesions may begin but halt short of completion, the revascularization front becoming collagenous. Bone trabeculae adjacent to this fibrous tissue are often greatly thickened and may give rise to a sclerotic line on clinical radiographs. When such a radio-dense line is seen traversing a bone end it is highly probable that the tissue between it and the joint surface is still dead. The necrotic bone trabeculae may later fracture, with collapse of the articular surface associated with pain. Incongruity of the joint surface is often followed by formation of osteophytes at the living joint margins. At first the joint space remains normal and the articular cartilage covering dead bone is relatively well preserved but later it and the underlying dead bone may be ground away, the end result sometimes being difficult to distinguish from primary osteoarthritis. A similar pattern of events and morphological changes may be seen following juxtaarticular bone necrosis due to other causes.

Scientific communications II

Cervical Adenitis Caused by *Mycobacterium chelonae* (*M. abscessus*) C. A. MORRIS AND G. H. GRANT (*Public Health Laboratory and Royal Salop Infirmary, Shrewsbury*) In February 1972, an 8-year-old boy presented with a painless submandibular swelling causing some neck discomfort. The swelling persisted in spite of antibiotics; it was explored surgically and a soft tissue mass excised. The wound healed uneventfully. No other abnormalities were found on clinical and x-ray examination.

Histology of the excised mass showed lymphatic tissue with a tuberculoid reaction. There were numerous large collections of epithelioid cells, some with central necrosis and giant cells. There was no anisotropic material. Very scanty acid-fast bacilli were seen. *Mycobacterium tuberculosis* was not

isolated by culture or by guinea pig inoculation. A pure growth of a non-pigmented mycobacterium was cultured, which was slow to grow on primary isolation, but rapid on subculture. Dr J. Marks of the Tuberculosis Reference Laboratory, Cardiff, examined the isolate by lipid analysis and identified it as *Mycobacterium abscessus*.

The patient showed a negative Mantoux tuberculin reaction at 1/10000 and weakly positive at 1/1000. There was marked skin hypersensitivity to an extract of sonically disrupted live organisms of *M. chelonae* (synonym *M. abscessus*) at 1/10 000, but none to that of *M. ranae* (synonym *M. fortuitum*) at 1/1000. A cat-scratch fever intradermal test was negative.

Mycobacterium chelonae has caused abscesses following the injection of contaminated drugs or vaccines. This child had an injection of dental anaesthetic four months before the appearance of the lesion; this may indicate the portal of entry of infection. This is thought to be the first recorded case of cervical adenitis caused by *M. chelonae*, and the strain has been deposited in the National Collection of Type Cultures (NCTC 10882).

Intravascular Coagulation and Renal Failure in *E. coli* Septicaemia F. E. PRESTON, R. G. MALIA, M. J. SWORN AND E. K. BLACKBURN (*Departments of Haematology and Pathology, The Royal Infirmary, Sheffield*) Although various haematological abnormalities have been described in patients with Gram-negative septicaemia, the precise pathogenesis of the reported findings has remained obscure. In the eight patients described in this study, *E. coli* septicaemia associated with oliguric renal failure showed evidence of intravascular coagulation.

Haematological evidence of intravascular coagulation was obtained in all eight patients. Thus elevated fibrin degradation products in the serum and thrombocytopenia were constant features, while plasma fibrinogen depletion was noted in six out of eight. The diagnosis of intravascular coagulation was subsequently confirmed by histological examination of necropsy material from the five patients who died: there was no constant pattern of distribution of intravascular fibrin.

A falling haemoglobin and a peripheral blood picture characteristic of a microangiopathic haemolytic anaemia was observed in five of the patients. These changes which can be attributed to mechanical damage of red cells by intravascular strands of fibrin returned to normal after successful clinical management.

Although oliguric renal failure is a recognized complication of septicaemia, the precise mechanism by which it occurs has remained obscure. Recently,