

7. Diagnosis of infected prepatellar bursa by thermography (Case report)

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In the differential diagnosis of the rheumatic diseases thermography offers a rapid and noninvasive method for the precise localization of an area of infection.

Case Report

Mr. L.S., age 42, developed a painful effusion in his left knee. There was no history of trauma or previous arthritis. The knee improved with rest and phenylbutazone but two weeks later it recurred. It again improved with an intra-articular injection of 20 mgm Depo-Medrone. Three weeks later he developed an acute arthritis of the left knee and when pus was allegedly aspirated from the knee he was admitted to hospital.

Examination showed a hot tender knee, particularly over the patella but the joint

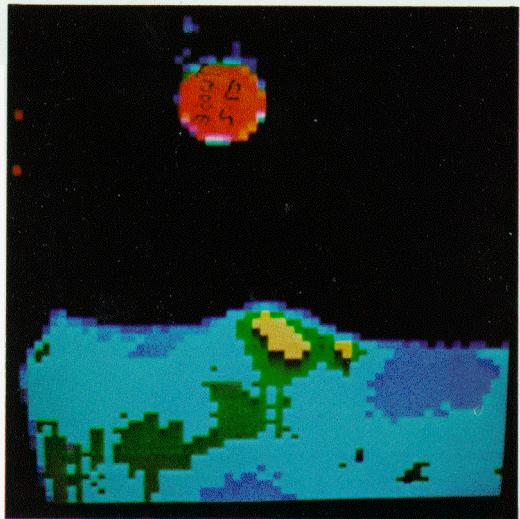


Fig. 2. Mrs. A. 7'. Non infected prepatellar bursitis.

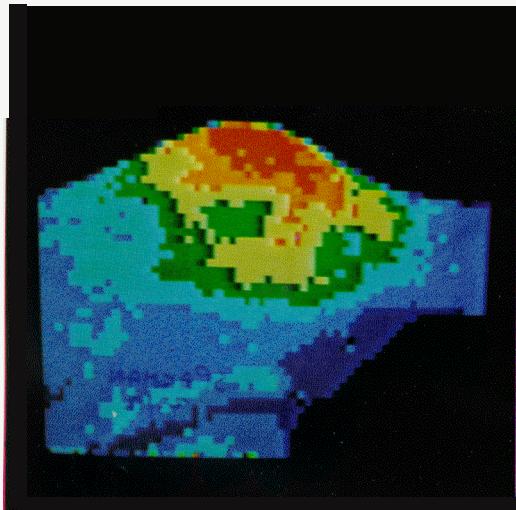


Fig. 1. Mr. L. S. Infected prepatellar bursa.

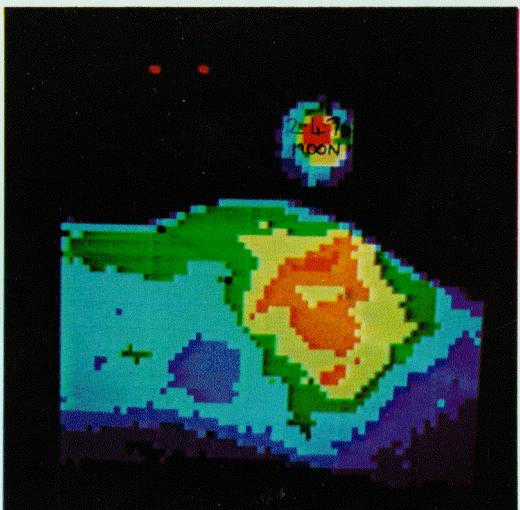


Fig. 3. Mr. E. M. Septic arthritis of knee.

line was not tender and there was no effusion in the knee joint. It was uncertain whether this was an infected knee joint or an infected prepatellar bursa.

A lateral thermogram was taken (Fig. 1) and comparison of this with thermograms from patients with a traumatic but non infected prepatellar bursitis (Mrs. A. T., Fig. 2) and a septic arthritis (Mr. E.M., Fig. 3) showed that this was an infected prepatellar bursa.

This diagnosis was confirmed by aspiration from -both the knee joint (no fluid

obtained) and the prepatellar bursa (thick pus, white blood count 80,000/ml with a profuse growth of *Staph. Aureus* on culture). The site of aspiration was confirmed by injecting Conray 280 contrast medium to both cavities (Fig. 4) showing evidence of infection and induration in the prepatellar bursa but no connection between the two cavities.

Treatment was started with systemic penicillin and daily aspiration, lavage and penicillin to the prepatellar bursa and the patient made a complete recovery.



Fig. 4. Mr. L.S. Radiograph of infected prepatellar bursa showing contrast medium in the joint cavity and in the prepatellar bursa. The two cavities do not communicate.

Discussion

Although bacterial sepsis in a joint or bursa tends to emit more heat than Rheumatoid Arthritis at the same site there is such a wide overlap that thermography is of limited value in deciding the nature of the pathology. It is of more value in deciding

the site of the pathology. In this case we were able to distinguish between infection in the prepatellar bursa and infection in the anterior compartment of the knee joint; two parallel tissue planes separated by about 2 cms. The technique is quick and non-invasive.

