Anteroposterior lumbar myelogram showing circumscribed filling defect (arachnoid cyst) with dilated vessels running into it.

ted with paraplegia and retention of urine. A myelogram done at that time was reported merely to show no block. Intrathecal therapy was not given. Subsequently she made a complete recovery. The sacrococcygeal sinus appeared to have escaped notice. Four years later an orthopaedic opinion was sought because of low back pain and a slight limp, but these symptoms eventually cleared up.

In the plain x-ray films of the lumbar spine there was no evidence of spina bifida or any other abnormality. A myelogram showed a circumscribed, nodular intradural lesion at the level of L4 with dilated vessels running into it (see Fig.) It was thought to be most likely a dermoid cyst. Lumbar laminectomy showed a

dense arachnoiditis involving the cauda equina with a central arachnoid cyst containing dirty-grey, chalky material. The roots of the cauda equina were freed and the cyst was excised. Histological examination disclosed the features of arachnoiditis with cyst formation and no evidence of dermoid. For the next two weeks postoperative retention of urine required daily catheterization. After her discharge from hospital shortly afterwards only one episode of bedwetting occurred.

Comment

A congenital dermal sinus may serve as a pathway of infection into the central nervous system and its coverings, and in 1944 Shenkin, Hunt, and Horn (quoted by Epstein, 1968) reported a case similar to the present one in which a 2-year-old infant had transverse myelitis and widespread leptomeningitis arising by this means. Thus there is general agreement that this lesion should be obliterated by prompt surgery. Among the causes of arachnoiditis are infective conditions such as meningitis, syphilis, and tuberculosis; parasitic infestations; trauma, including surgical manoeuvres; subarachnoid haemorrhage; spinal cord tumours; and intrathecal injections. In some cases no cause can be found. The lesion in the arachnoid may be extensive or locally circumscribed and may be associated with cyst formation. The clinical course is also irregular, with periods of remission or exacerbation ranging from a few weeks to several years. Some workers state that spinal arachnoiditis is more common in the cervical and thoracic regions, but others have encountered it more frequently in the lumbar region (Epstein, 1968).

Thanks are due to Dr. Val Massiah, principal pathologist, for the histological examination.

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Spontaneous Fractures of Pelvis in Rheumatoid Arthritis

R. T. TAYLOR, E. C. HUSKISSON,
G. H. WHITEHOUSE, F. DUDLEY HART

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Spontaneous fractures occurring in the long bones and neck of the femur are well recognized in patients with rheumatoid arthritis (Baer, 1940; Haider and Storey, 1962; Devas, 1965).

We report six cases of rheumatoid arthritis with fractures of the innominate bone. They were associated with little or no trauma, and only one of the patients was receiving corticosteroid therapy.

Patients and Treatment

Details of the patients are given in the Table and their fractures are illustrated in Figs. 1 to 3. The first three patients, who had severely involved hip joints, had sustained fractures through the acetabulum. The fourth patient had a fracture of the right ilium, and the fifth, amazingly, had fractured the ilium and pubic rami on the right. In the last patient the fracture was through the right superior pubic ramus and subsequently also through the acetabulum.

Five of the patients denied any form of trauma. One noticed the pain suddenly when she rose from her hairdresser's chair. The other four did not remember a sudden event but complained of more than usually severe pain in the region of the hip for one to three weeks. Walking had become difficult or impossible. In only one patient (Case 4) was there any form of trauma. She had stumbled over the edge of a carpet and fallen.

Details of the Six Patients

Case No.	Age	Sex	Duration of Arthritis (years)	Rose-Waaler Titre	E.S.R. (mm/hr)	Serum Calcium (mg/100 ml)
1	75	F.	7	1/2,048	53	8.6
2	40	F.	6	1/1,024	53	8.6
3	80	F.	50	1/512	54	8.9
4	40	F.	5	1/512	54	9.0
5	54	F.	2	Negative	7	10.0
6	59	F.	14	Negative	34	10.2

Westminster Hospital, London S.W.1

R. T. TAYLOR, M.B., B.CHIR., M.R.C.P., Senior Registrar
E. C. HUSKISSON, M.B., B.S., M.R.C.P., Research Registrar (Present address: St. Bartholomew's Hospital, London E.C.1)
G. H. WHITEHOUSE, M.R.C.P., D.M.R.D., Registrar (Present address: Department of Radiodiagnosis, United Bristol Hospitals)
F. DUDLEY HART, M.D., F.R.C.P., Consultant Physician

FIG. 1—Sites of fractures in the six patients.

FIG. 2—Case 1. Radiograph showing fracture of left acetabulum and deformity of femoral head.

FIG. 3—Case 5. Radiograph showing fracture of right ilium and pubic rami.

One patient (Case 6) was receiving prednisone 9 mg daily. None of the others had received systemic corticosteroids but one (Case 2) had been given an intra-articular injection of hydrocortisone into the affected hip joint four months before the fracture occurred.

All patients had definite or classical rheumatoid arthritis by the American Rheumatism Association criteria, and four had positive tests for rheumatoid factor in high titre.

In no case was there a history of gastrectomy or evidence of malabsorption or malignant disease. Serum calcium estimations were normal in all cases.

Treatment varied according to the severity of the pain. Three of the patients with fractures of the acetabulum were able to maintain mobility with additional analgesic drugs and in one case elbow crutches. One to two years after sustaining the fractures these three patients underwent total hip replacement. They were all followed for over a year after the operations, which were fully successful. One patient suffered a spontaneous fracture of the neck of the opposite femur six months after the arthroplasty. The other three patients were treated with bed rest until relatively pain free and then mobilized, two without difficulty. In one elderly patient mobilization was a prolonged and difficult process.

Comment

The importance of these fractures lies in their recognition. It is tempting to accept an increase in pain in the region of a diseased hip joint as due to exacerbation of arthritis. When there is trauma or a sudden increase in pain a fracture is likely to be suspected. But with the slower onset of pain, as occurred in four of these patients, the diagnosis will not be made unless radiological examination is carried out. In two of the cases described by Haider and Storey (1962) there was evidence that the fractures developed gradually.

Protrusion acetabuli is a particular feature of the rheumatoid hip, and it is not surprising that fractures occur in the narrow rim of bone which remains. Proximity to a diseased joint, however, cannot explain fractures in other parts of the pelvis. Stress fractures occur not uncommonly in older people without rheumatoid arthritis and are thought to be related to senile osteoporosis (Devas, 1966). Patients with rheumatoid arthritis suffer from osteoporosis whether they are treated with corticosteroids or not (Duncan *et al.*, 1965; Saville and Kharmosh, 1967), and it is likely that this is an important cause of these fractures.

Our experience suggests that patients with acetabular fractures are more easily managed if mobility is maintained, though this is not always possible. Total hip replacement appears to be successful even in cases with severe acetabular protrusion.

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