OSTEOARTHRITIS OF THE PISIFORM-TRIQUETRAL JOINT

Report of Three Cases

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Localised monarticular arthritis of the pisiform-triquetral joint is an unusual condition and a study of the literature has failed to reveal an example. Immermann (1948) reported a painful recurrent dislocation of the joint and reviewed the literature, but he made no mention of a true arthritis in any of the patients.

CASE REPORTS

Case 1—A woman aged sixty-three years was first seen at Hammersmith Hospital in May 1950. Six months previously she had fallen forwards with both hands outstretched to save herself. The right hand was not injured but there was immediate slight pain in the left wrist. The hand was pronated and the wrist dorsiflexed as she fell. She did not visit her doctor until six months later when she complained of persistent and increasing pain and stiffness. The pain was accurately localised to the front and inner side of the wrist and was aggravated by wrist movements, particularly ulnar deviation. On examination, there was no visible swelling or deformity and there was a full range of movement of the joints of the wrist and hand in spite of the pain. Considerable pain was felt in the region of the pisiform bone when it was pressed, and a coarse and very painful crepitus was elicited in the pisiform-triquetral joint when the pisiform was moved from side to side. There was no abnormal mobility in this joint.

Radiographic examination—Routine postero-anterior, oblique and lateral radiographs failed to show any abnormality other than early osteoarthritis of the first metacarpo-trapezial joint, which was symptomless. But a radiograph in the plane of the pisiform-triquetral joint showed
well marked osteoarthritis of this joint with diminution of joint space, sclerosis of the opposing surfaces and the formation of osteophytes at the articular margin of the pisiform (Fig. 1).

Treatment—Physiotherapy was prescribed but it had no effect on the pain, and in view of the clinical and radiological findings it was decided that excision of the pisiform bone would be the most effective treatment. At operation the pisiform bone was exposed through a short longitudinal incision and dissected out without interrupting the continuity of the tendon of the flexor carpi ulnaris. The articular surfaces of the pisiform and triquetral bones were grossly eburnated and there was osteophyte formation around the articular rim of the pisiform (Fig. 2). After operation the wrist was immobilised in plaster for ten days. Two weeks later there was a full range of painless movement at the wrist, hand and fingers. The patient returned to her normal household work and has suffered no further disability.

Case 2 (Reported by permission of Sir Reginald Watson-Jones)—A woman aged fifty-five years was seen in September 1950, when she complained of pain in the left hand with a sensation "as if there is a block of blood in the palm," referred from the ulnar to the radial side of the palm. On examination there were local swelling and marked tenderness in the region of the pisiform bone, impairment of touch and pain sensibility in the distribution of the ulnar nerve, and slight wasting and weakness of the hypothenar muscles and interossei. Wrist movements were full, but a coarse grating was felt when the pisiform bone was moved on the triquetral. Radiographs showed well marked osteoarthritis of the pisiform-triquetral joint, and less severe changes in the carpo-metacarpal joint of the thumb (Fig. 4).

Treatment—Rest for five weeks in plaster gave temporary relief but the symptoms returned after removal of the plaster. Operation was therefore undertaken. The pisiform bone was excised; its articular surface was found eroded (Fig. 5) and there was similar erosion of the articular surface of the triquetral. The ulnar nerve showed no macroscopic evidence of abnormality.

Progress—When the patient was seen eight months after operation she had no pain or tenderness, and all movements were normal. There was still slight wasting of the hypothenar and interosseous muscles, but the patient regarded the cure as complete.

Comment—It is uncertain whether the clinical evidence of ulnar nerve impairment resulted from direct ulnar nerve irritation or from a vascular disturbance of the nerve.

Case 3 (Reported by permission of Mr Roland Barnes)—A woman aged fifty years was seen in February 1949, when she complained of increasing pain and weakness in the left wrist of six months' duration. On examination there was swelling over the ulnar side of the wrist, and coarse crepitation could be felt over the pisiform bone when the patient moved the wrist.

FIG. 4
Case 2. Figure 4—Radiograph showing narrowing of the joint space and osteophytic lipping. Figure 5—Articular aspect of excised pisiform bone.

FIG. 5
into ulnar deviation. Radiographs showed osteoarthritic changes in the wrist, but the pisiform-triquetral joint was not well visualised.

**Treatment**—Immobilisation in plaster for three weeks failed to alleviate the symptoms, and it was decided to excise the pisiform bone. At operation the tendon of flexor carpi ulnaris was split longitudinally and the pisiform was dissected out. The bone showed marked osteoarthritic changes.

**Progress**—Within a few weeks of the operation the symptoms were completely relieved and there was a full range of painless movement in the wrist.

**DISCUSSION**

In the first case the arthritis appears to have developed through a fall on the wrist which injured the pisiform bone and the underlying joint. The pathological changes are like those of osteoarthritis in other joints—destruction of articular cartilage, eburnation of the underlying bone, and osteophyte formation at the articular margins. In all three cases pain was the outstanding symptom. It was aggravated by contraction of the flexor carpi ulnaris, especially with the wrist in ulnar deviation, and a painful crepitus was easily demonstrated by grasping the pisiform between finger and thumb and moving it from side to side. To confirm the diagnosis a special radiographic projection is advisable. The wrist is slightly abducted and the forearm rests on its ulnar side with the dorsal surface at an angle of 60 degrees to the plane of the film (Holly 1945). The position is improved by dorsiflexion of the wrist, as this steadies the hand and ensures that the pisiform is not overshadowed by the neighbouring bones (Fig. 6).

Removal of the pisiform bone does not seem to interfere with the normal function of the hand. Therefore, if conservative treatment of the painful joint is unsuccessful it is reasonable to remove the pisiform rather than to attempt arthroplasty or arthrodesis of such a small and unimportant joint.

I am indebted to Sir Reginald Watson-Jones and Mr R. Barnes for permission to include their cases in this report.

**REFERENCES**
