

Clay shoveller's wrist: a case of bilateral radio-scaphoid wrist arthritis

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Citation

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Abstract

We report a case of bilateral symmetrical radio-scaphoid wrist arthritis in a clay shoveller. The bilateral nature of this case and the absence of any obvious trauma suggest that the only aetiology of the patient's degenerative changes was progressive and bilateral ligamentous distension secondary to repeated micro trauma due to the patient's previous clay shovelling occupation, and hence suggest the nomenclature "clay shoveller's wrist".

INTRODUCTION

There are several specific patterns of degenerative arthritis of the wrist. About 95% of them occur as peri-scaphoid area problems, and of these the majority begin at the articulation of the scaphoid and radius. This pattern of arthritis of the wrist is termed Scapholunate Advanced Collapse (SLAC) and follows scapholunate dissociation. This allows the scaphoid to collapse into a horizontal position and prevents the normal movement of the scaphoid in the fossa at the distal end of the radius. This alters the mechanics of the radio-carpal joint promoting wear and eventual arthritic changes at the scaphoid-radial styloid area. The resulting collapse and rotation of the scaphoid places inordinate loads on the capitolunate joint. The proximal lunate articulation with the radius is principally axially loaded and hence is rarely damaged by degenerative changes, even in the later stages of the most advanced SLAC wrist.⁴

CASE REPORT

A 67-year-old male presented with increasingly painful bilateral wrists of six-month duration. The right wrist pain being the worse of the two. There was no previous history of trauma or infection. He had worked as a clay shoveller for ten-years.

Physical examination revealed no swelling or skin changes around the wrist. Joint line tenderness was noted over the radio-scaphoid aspect of both wrists. The wrist movements were restricted but the grip strength was satisfactory. There was no associated distal neurological deficit. Radiographs showed degenerative changes mainly affecting the radio-

scaphoid joint with complete obliteration of the joint space but also narrowing of the capitolunate joint was noted in both wrists (Figure 1).

{image:1}

Initial treatment was with anti-inflammatory medication, and then an intra-articular steroid injection. As the pain worsened surgical intervention was arranged for the right wrist. However this had to be delayed as the patient was diagnosed with chest tuberculosis at the pre-assessment clinic. Following successful completion of anti-tubercular drug therapy, scaphoid excision and four corner fusion of the right wrist was carried out. At the five-year follow up the patient has minimal pain, and reasonable range of wrist movement (Figure 2)

{image:2}

DISCUSSION

The patient exhibited no predisposing factors in his history such as congenital bipartition of the scaphoid or long-standing non union of the scaphoid.^{2,3} Therefore the bilateral nature of this case and the absence of any obvious trauma suggest that the only aetiology of the patient's degenerative changes was progressive and bilateral ligamentous distension secondary to repeated micro trauma.³ This mechanism of damage was caused by an abnormally high contact force between the distal ossicle and the radial styloid due to the patient's previous clay shovelling occupation.

As the patient's radius-lunate joint was preserved surgical

treatment was based upon diverting the wrist load through this joint by fusion of the capitate and lunate. The hamate and triquetrum was added to the fusion as they do not seem to change the final range of motion but enhance the healing of the arthrodesis. The scaphoid was excised to reduce symptoms but no prosthesis was put in place. The theoretical advantage of a scaphoid

prosthesis is to reduce the tendency for radial deviation, but there is no significant evidence that it improves overall outcome.¹⁴

In summary, although a differential diagnosis must include an old infective arthritis (i.e. secondary to tuberculosis), it seems very likely given the bilateral symmetrical nature and the lack of predisposing factors (other than occupation) that this patient had bilateral SLAC wrists secondary to his previous clay shovelling occupation – “Clay shoveller’s

wrist”.

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