



 Images in Clinical Medicine



Unilateral Osteoarthritis — “The Working Hand”

A 73-year-old woman was seen in the Neurology Clinic for follow-up of secondary progressive multiple sclerosis. She had had a progressive left hemiparesis for 30 years. She reported mild intermittent pain, joint swelling, and stiffness of her right hand, fingers, and wrist. She had no symptoms of arthritis in her left hand.

Physical examination revealed a left hemiplegia. Muscle strength was 1/5 in the left wrist and hand, with no joint swelling or deformity; the left hand appeared to be somewhat smaller than the right. In sharp contrast, examination of the patient's right hand revealed typical changes of osteoarthritis, with both Heberden's and Bouchard's nodes in association with irregular deformities, swelling, and a restricted range of motion at several distal and proximal interphalangeal joints. There was a “square hand” deformity as a result of subluxation of the base of the right first metacarpal. The muscle strength of the right hand was normal.

Joint sparing in rheumatic conditions, such as osteoarthritis and rheumatoid, psoriatic, and gouty arthritis, have been reported, though infrequently, in association with both central and peripheral neurologic lesions. There are two postulated explanations for this phenomenon. The immobilization theory suggests that relative lack of use of a plegic limb is protective, and the neurogenic theory suggests that the central and peripheral nervous system actively modifies the inflammatory process by effecting the release of inflammatory neuropeptides.

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