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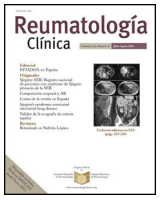

Images in Clinical Rheumatology

Gull-wing sign: A characteristic sign of erosive hand osteoarthritis

Signo de ala de gaviota: un signo característico de la osteoartritis erosiva de la mano

Sadettin Uslu

Department of Rheumatology, Ömer Halisdemir University Bor Physical Medicine and Rehabilitation, Training and Research Hospital, Niğde, Turkey

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A 54-year-old woman presented with a 3-year history of pain and deformity of distal interphalangeal (DIP) joints in both hands. The pain was inflammatory in nature, with early morning stiffness of >1 h. The patient's personal and family past medical history was unremarkable. She had partial response to various nonsteroidal anti-inflammatory drugs (NSAIDs). Physical examination revealed tenderness, swelling and decreased range of motion in the DIP joints. Laboratory evaluation revealed high ESR (39; range, 0–20 mm/h) and CRP (18; range, 0–5 mg/L) levels, with negative RF, anti-CCP and ANA. Based on clinical and laboratory findings referred to an inflammatory type pain due to the presence of joint inflammation. X-ray of the hands documented typical features of erosive hand osteoarthritis (OA) in DIP joints such as joint space narrowing, subchondral sclerosis, marginal osteophytes and erosions in the central portion of the joint giving "gull-wing sign" (Fig. 1). The patient had a high level of pain (VAS = 75 mm). Treatment with prednisolone (10 mg/day) and methotrexate (10 mg/week) was initiated (patient consent form was obtained for treatment). Significant clinical improvement was observed on her pain (VAS = 20 mm) and morning stiffness (less than 5 min) within four weeks of the treatment. Additionally, ESR and CRP decreased to normal levels.

Hand OA is a subtype of OA that consists of several phenotypes, including interphalangeal (IP) OA, thumb base OA and erosive OA. The term "erosive OA" specifically relates to hand OA with erosions in the IP joints. Erosions on radiographs can be defined by different scoring methods.[1] Erosive hand OA is often called "inflammatory and degenerative hand OA" condition of the IP joints, but the underlying mechanisms are currently unclear.[2] Clinical features attributed to erosive OA include an abrupt onset of severe hand pain with variable degrees of stiffness, erythema, swelling and limited function of the joints. No formal classification criteria exist to define erosive OA. Erosive OA is a radiographically defined phenotype characterised by erosions and central cortical collapse.[3] The "gull-wing sign" describes the distal convex paracentral erosions with subchondral sclerosis and marginal osteophytes on radiograph. In a small cohort study, performed in erosive hand OA patients, it was reported that about 12.6% of the examined DIP joints had gull-wing deformity.[4] The primary goal of managing hand OA is to control symptoms, such as pain and stiffness, and to optimise hand function. Optimal management of hand OA usually requires a multidisciplinary approach. The objectives of management are: (1) non-pharmacological modalities (education and training in ergonomic principles, exercise and orthoses); (2) pharmacological options (paracetamol, topical/oral NSAİDs, chondroitin sulfate); (3) surgery (trapeziectomy, arthrodesis or arthroplasty). Intra-articular injections of glucocorticoids should not generally be used in patients with hand OA, but may be considered in patients with painful IP joints.[5] Also, the Hand Osteoarthritis Prednisolone Efficacy study showed the efficacy and safety of short-term prednisolone in patients with painful hand OA and synovial inflammation.[6]

Peer-review

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E-mail address: sadouslu@gmail.com

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Fig. 1. Hand radiograph showing gull-wing deformities in DIP joints.

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Conflict of interest

The authors have no conflict of interest to declare.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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