



Inflammatory arthritis of distal interphalangeal joints in rheumatoid arthritis; a rare case report

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Abstract

Rheumatoid arthritis (RA) is autoimmune inflammatory arthritis of unknown etiology. The involvement of distal interphalangeal joint in RA is rare and review of literature does not reveal much about inflammatory arthritis of distal interphalangeal joint in RA with joint destruction. We report a case of seropositive RA with severe distal interphalangeal joint destruction.

Case Report

Thirty year old female presented with one year history of swelling and pain of hand joints associated with early morning stiffness of greater than 1 hour duration. There was no family history of psoriasis. Examination reveals swollen joint count six and tender joint count nine, with clinically arthritis of distal interphalangeal (DIP) joint of fourth and fifth finger of left hand and interphalangeal joints of bilateral thumbs in addition to arthritis of proximal interphalangeal joints and metacarpophalangeal joints of bilateral hands. Dermatology examination did not reveal any features of psoriasis, ophthalmology examination was normal and no clinical or radiological features of sacroiliitis were found.

Investigations revealed positive rheumatoid factor and high positive anti-cyclic citrullinated peptide (anti-CCP); corrected erythrocyte sedimentation rate (ESR) was 48. Hemoglobin was 10.5 g/dL; antinuclear antibody was negative; 24 hours urinary protein was normal; urine examination was normal; cANCA and pANCA were negative. X-ray of chest was normal. X-ray of hands (**Figure 1**) revealed erosive arthritis of DIP joints of left little and ring finger and IPs of bilateral thumbs in addition to proximal interphalangeal (PIP) and metacarpophalangeal (MCP) joints. Color Doppler revealed features of synovitis of DIPs of left little and ring finger. Liver function tests and kidney function test were normal. A diagnosis of seropositive rheumatoid

Key point

It is necessary to find out the incidence and severity of distal interphalangeal joint involvement in rheumatoid arthritis (RA), while thought to be unknown until now.

arthritis was made fulfilling EULAR/ACR 2010 criteria. Patient was followed for 2 years to see for any features of psoriasis or inflammatory back pain which did not develop. Multicentric reticulohistiocytosis (MR) is a differential diagnosis. However, MR characterized by papulonodular skin lesions containing a proliferation of true histiocytes and is anti-CCP and RF negative. In our case report patient did not have any skin lesion and was anti-CCP and RF positive.

Discussion

Rheumatoid arthritis (RA) is the most common autoimmune inflammatory arthritis in adults (1). It has prevalence of slightly less than 1% in adults (2). Women, smokers and those with a family history of the RA are often affected. The probability of a rheumatoid arthritis diagnosis increases with proportion of involved small joints. In a patient with inflammatory arthritis, the presence of a rheumatoid factor or anti-citrullinated protein antibody (anti-CCP) and elevated C-reactive protein (CRP) level or ESR suggests a diagnosis of rheumatoid arthritis (2,3).

Following items are the criteria for





Figure 1. Radiograph of patient's hand joints showing DIP joint destruction in left little and ring finger.

rheumatoid arthritis (4-7) (A score of more than six establishes the diagnosis of rheumatoid arthritis); Presence of joint involvement; one large joint = 0, while 2-10 large joints = 1. Accordingly, 1-3 small joints (with or without involvement of large joints) = 2, while involvement of 4-10 small joints (with or without involvement of large joints) = 3.

Additionally, involvement of >10 joints (at least 1 small joint) = 5. Accordingly, serology, negative RF and negative ACPA test = 0, while low-positive RF test or low-positive ACPA test = 1. Likewise, high-positive RF test or high-positive ACPA test = 2. Furthermore, acute-phase reactants, normal CRP and normal ESR = 0, and abnormal CRP test or abnormal ESR = 1 and finally, duration of symptoms >6 weeks = 1, whereas <6 weeks = 0. RA involves PIPs and MCP joints of hand and rarely DIP joints. There is not much literature available about arthritis of DIPs in rheumatoid arthritis. A study reported 37% erosions of DIPs in patients of RA compared to 14% in controls (5-7). It is evident that, rheumatoid arthritis has predilection for smaller joints of hand especially metacarpophalangeal and proximal phalangeal joints (7,8), however the same synovium is present in DIPs which is involved in PIPs in RA.

Conclusion

It is necessary to find out the incidence and severity of DIP joint involvement in RA, while thought to be unknown

until now.

Authors' contribution

All authors contributed equally to the paper.

Conflicts of interest

The authors declare no conflict of interest.

Ethical consideration

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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