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Severe disabling hand and foot deformity in an untreated patient of Rheumatoid Arthritis (RA)

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Abstract

Rheumatoid arthritis (RA) is a multisystem immune-mediated inflammatory disease, with female predominance, affecting the synovial joints. Bilateral symmetrical inflammation, joint destruction, deformity, and disability, are the typical presentation of the disease. Inflammatory arthritis involving the small joints of the hands is a common presentation, however, other joints are also involved in the later course of the disease. The biological disease-modifying anti-rheumatic drugs (DMARDs) are the most effective drug to achieve and maintain complete remission, whereas

NSAIDs are used for symptomatic pain relief. The severe deformity is needed to be corrected by surgical management to restore joint function. We present a clinical image of severe disability of hand and foot in an untreated patient of RA, coming from the rural area of Gujarat, suggestive of lack of awareness as well as non-compliance to the treatment in these regions. The awareness programs need to target these populations for early diagnosis and proper treatment of RA.

Keywords: Hand and foot deformity, Mid-foot deformity, Rheumatoid Arthritis, Swan-Neck Deformity

Introduction

Rheumatoid arthritis (RA) is an inflammatory disease mediated by immunological reaction, with female predominance, affecting multiple systems, predominantly affecting the synovial joints. Articular manifestations include inflammation, joint destruction, deformity, and disability, which are typically bilaterally symmetrical. The most common initial presentation of RA is inflammatory arthritis which involves the small joints of the hands (the distal interphalangeal (DIP) joints, the proximal interphalangeal (PIP) joints, the metacarpophalangeal (MCP) joints, and the wrist joints). Other joints such as the shoulders, elbows, knees, ankles, metatarsophalangeal joints, temporomandibular joints, and the cervical spine, can also be involved in the disease process ^[1].

Case History

We put forth a case of a 60-year-old female from a tribal area of Gujarat, India, who came to the hospital with complaints of pain and deformity involving both hands and feet. (Figure 1-3) After evaluating her history, the patient revealed that she had these complaints for several years for which she used to take oral analgesics but never investigated further. The blood investigations revealed anaemia (Hb-8 gm%), raised C-reactive protein (CRP) and Erythrocyte Sedimentation Rate (ESR), positive Rheumatoid factor and Antibodies to citrullinated protein and peptide antigens (ACPAs). The patient was started treatment with methotrexate and analgesic for pain and advised for surgical correction of deformities.



Fig 1: Hyperflexion of the DIP joint and hyperextension of PIP and suggestive of Swan - Neck Deformity



Fig 2: Swan - Neck Deformity of both hands



Fig 3: Midfoot Deformity in RA - the front of both feet point outward

Discussion

Several deformities have been described in the literature: Swan-neck deformity (hyperflexion of the DIP joint and hyperextension of PIP), Boutonnière deformity (hyperflexion of the PIP joint and hyperextension of the DIP joint), Subluxation of the MCPs, Ulnar drift or ulnar deviation, Hitchhiker thumb or the Z deformity, floating ulnar styloid and Piano key sign, Subluxation of the wrist, Vaughan-Jackson deformity, etc ^[1].

There is no cure for the disease however, several treatment options are available among which the biological disease-modifying anti-rheumatic drugs (DMARDs) are the drugs with high efficacy to achieve and maintain complete remission. Non-Steroidal Anti-Inflammatory drugs (NSAIDs) are also used for symptom relief. However, once

the severe deformity developed as in our patient, surgical interventions are carried out to conserve and restore joint functions ^[2].

Conclusion

Here, we highlight the case of untreated RA presented with severe disabling hand and foot deformity. The rural population of India is unaware of the conditions like RA and its disabling complications. Ignorance of symptoms and non-compliance to the treatment often leads to severe joint deformity which is difficult to manage by drugs alone. Therefore, awareness programs about RA and the importance of early treatment are necessary to be carried out in rural areas.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understand that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Author's contribution

Dr Darshankumar Manubhai Raval - Critical revision of the article and Final approval of the version to be published.

Dr Vaishnavi Rathod - conception of the idea, drafting the article, Critical revision of the article and Final approval of the version to be published.

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