
**ISSN Print:** 2394-7500
**ISSN Online:** 2394-5869
**Impact Factor (RJIF):** 8.4
IJAR 2024; 10(2): 161-163
www.allresearchjournal.com
Received: 13-12-2023
Accepted: 18-01-2024

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# Psoriatic enthesitis - Case report

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**DOI:** https://doi.org/10.22271/allresearch.2024.v10.i2c.11545

**Abstract**
Entheses are essential for locomotion, as these structures connect tendons and ligaments to the bone. Enthesitis, is an inflammation of entheses. Exaggerated inflammatory responses to mechanical stress in patients with Psoriatic arthritis lead to initiation of enthesitis. Which is one of the domain of Psoriatic arthritis. Pain, Impaired function and new bone formation are the key features of enthesitis.

**Keywords:** Enthesitis, psoriasis, psoriatic arthritis, pain, joint damage

## Introduction
Entheses are structures that connect tendons and ligaments to bones, typically located outside the joint capsule in the periosteal space. Recently, they have been classified as part of a larger anatomical group known as the enthesis organ (Benjamin M & McGonagle D, 2009) [2]. Entheses play a crucial role in transmitting mechanical forces to the skeletal system and providing stability (Schett G, 2017) [9]. Inflammation of the enthesis is referred to as enthesitis, which is a key pathological and clinical hallmark of Psoriatic arthritis (Schett G, 2017) [9]. Specific joints commonly affected by enthesitis include the sternoclavicular, sacroiliac, and distal inter phalangeal joints (Elizabeth G. Araujo & Georg Schett, 2020) [3]. Mechanical stress, such as repetitive trauma from work or sports activities, is a triggering factor in the development of enthesitis (Schett G, 2017) [9].
Patients with enthesitis often experience pain, impaired function, and reduced quality of life (Mease PJ *et al*., 2017) [6]. Chronic enthesitis can also lead to new bone formation, characterized by peripheral enthesophytes such as calcaneal spurs (Finzel S *et al*., 2011) [4]. Despite these consequences, it remains unclear why entheses are particularly prone to inflammation in patients with psoriatic arthritis and other forms of spondyloarthritis (Elizabeth G. Araujo & Georg Schett, 2020) [3]. Enthesitis is frequently underdiagnosed in clinical settings, and identifying it in patients with psoriatic arthritis can be challenging (Sakkas LI *et al*., 2013) [10].

## Case Description
Mrs. X, a 42-year-old woman, nurse and mother of a child, has a chronic history of pain in the small joints. Recently, she visited the Rheumatologist with complaints of significant pain in the elbow and inter phalangeal joints of both her right and left hands for the last month. The pain has restricted Mrs. X's ability to perform household chores, including lifting a pressure cooker, carrying a bucket of water, and washing clothes, thus limiting her daily activities. Additionally, Over the same period, Mrs. X noticed an exacerbation of the discolored, small, flaky, and itchy patches on her right foot. (Fig 1). She has sought treatment from a dermatologist for this condition.
She has a past history of pain in the knuckles of both right and left fingers, occurring on and off nine years. But, no specific treatment was sought, and management was conservative. Two years ago, she experienced pain in her left elbow diagnosed as lateral epicondylitis (Tennis elbow). She received treatment, including anti-inflammatory medications, analgesics, and physiotherapy, along with the use of a tennis elbow belt. Additionally, she has had a skin infection with eczema patches on her left foot, accompanied by itching, which may flare up intermittently (Figure 1). She has sought treatment from a dermatologist for this condition as well.

**Results of physical examination and investigation**

There are no standard lab tests to detect enthesitis. However, patients should be evaluated for diseases such as Rheumatoid arthritis, Psoriatic arthritis, and Spondyloarthritis. The physician or rheumatologist will conduct a physical examination and observe potential visible signs, such as redness and swelling at insertion sites, as well as symptoms such as tenderness, soreness, and pain at entheses, which may be elicited via palpation (Sakkas, 2013) [10]. In addition to the physical examination, more sensitive imaging tests like ultrasound and MRI are useful in detecting both inflammatory and chronic changes in enthesitis at both early and late stages (Amy S. Kehl *et al*., 2016) [1]. Although Mrs. X underwent a few blood investigations (Table 1), enthesitis was diagnosed based on physical examination by the rheumatologist. However, ultrasound and MRI were not performed for Mrs. X.

**Care and Treatment**

The treatment of clinical enthesitis typically begins with Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and corticosteroid injections. Continuous use of NSAIDs helps control symptoms and may slow the progression of bony changes (Poddubnyy D *et al*., 2012) [8]. Disease Modifying Anti-Rheumatic Drugs (DMARDs) and Tumor Necrosis Factor (TNF) inhibitors are also indicated (Genovese MC *et al*., 2007) [5]. Mrs. X was under treatment from both a dermatologist and a rheumatologist. (Table 2)

**Discussion**

Patients with psoriatic disease often initially present with skin lesions, followed by musculoskeletal signs and symptoms. The Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) has highlighted six commonly accepted clinical domains of Psoriatic Arthritis (PsA): peripheral arthritis, axial disease, enthesitis, dactylitis, skin disease, and nail disease. Enthesitis, a periarticular manifestation of PsA, can be identified through clinical evaluation (Taylor W, 2006) [11]. Mrs. X visited the Rheumatology outpatient department with complaints of pain in both upper limb elbows and inter phalangeal joints, affecting her activities of daily living. Additionally, she has chronic skin eczema patches on her left foot, accompanied by itching. Based on basic investigations and physical examination, she was diagnosed with enthesitis

Mrs. X was treated with Inj. Tricort (40 mg), a corticosteroid administered intramuscularly as a stat dose, along with Tab. SAAZ-DS (1 Gm), a Disease Modifying Anti-Rheumatoid Drug, Tab. Etoricoxib (60 Mg), an NSAID, and Tab. Pan (40 Mg), a Proton Pump Inhibitor, for 15 days at night. Additionally, she was advised to continue Tab. SAAZ-DS (500 mg) twice daily for one month. Simultaneously, topical application of Xerolene moisturizer, Halobetasol, Clobetasol, and salicylic acid was recommended by the dermatologist to alleviate itching in the patches on her right foot. Mrs. X visited the hospital for review after 15 days and then one month, during which there was a significant reduction in pain and improvement in her ability to perform daily activities. Eventually, she fully recovered. Medication was discontinued after 45 days, and she was advised to return for follow-up in case of any recurrence of symptoms


**Fig 1:** Psoriatic signs

**Table 1:** Diagnostic tests done to Mrs. X

| Initial Investigation | | |
|---|---|---|
| **Type of Investigation** | **Patient Value** | **Normal Value** |
| **Haematology** | | |
| ESR | 12 mm/1 hr | 25 mm/1 hr |
| **Biochemistry** | | |
| Serum Uric acid | 3.5 mg % | 1.5-6 mg % |
| Serum Alkaline Phosphatase | 75U/L | 40-115 U/L |
| **Serology** | | |
| CRP Turbilatex | 0.5 mg/L | 6 mg/L (Immunoturbimetric test) |
| RF Turbilatex | 8.7 IU/mL | 15 IU/mL (Immuno Turbidimetry) |
| **After one month of treatment** | | |
| SGPT | 32 U/L | 0-45 U/L |
| **CBC** | | |
| Haemoglobin | 12.1 g/dl | 12-15 g/dl |
| Total WBC Count | 7100 cells / Cumm | 4000-10000 cells/ Cumm |
| Total RBC Count | 4.11 ml / 10 g | 4.5-6.0 |
| Platelet Count | 283000 /Cumm | 1,40,000- 4,00,000 |
| ESR | 2 mm/1 hr | 0-25 |

**Table 2:** Medications

| S. No. | Name of the Drug | Dose and Route | Frequency |
|---|---|---|---|
| 1. | Xerolene moisturizer | Topical application | After Bath on right foot |
| 2. | Halobetasterol- | Topical application | 2 times For 1 Month |
| 3. | Clobetasol and salicylic acid | Topical application | After 1 Month |
| 4. | Inj. Tricort | 40 Mg - IM | Stat |
| 5. | Tab SAAZ- DS | 1 Gm-Oral | At Night for 15 Days |
| 6. | Tab. Etorioxib | 60 Mg-Oral | At Night for 15 Days |
| 7. | Tab. Pan | 40 Mg Oral | At Night for 15 Days |
| | **After 15 days review** | | |
| 8. | Tab SAAZ- DS | 500 Mg -Oral | One month - BD |

## Conclusion

Enthesitis serves as a hallmark characteristic of Psoriatic Arthritis (PsA). Despite its challenging detection, accurately identifying enthesitis is crucial for proper diagnosis and effective management. Delayed treatment can exacerbate the burden of the condition, leading to increased joint damage and diminished quality of life for affected individuals. Therefore, prompt identification and management of enthesitis are essential to mitigate its adverse effects on patients' health and well-being.

## Declaration of patient consent

The authors certify they have obtained all appropriate patient consent.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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