

Abrupt Swollen Bump of the Shoulder Girdle Joint as The First Presentation of Flare-up in a Case of Axial Spondyloarthritis

Abstract

Axial spondyloarthritis is a collective group of diseases, and psoriatic arthritis is a chronic, systemic inflammatory form of arthritis, affecting the peripheral joints, tendons, ligaments, and axial skeleton. Involvement of the Sternocostoclavicular (SCC) joint as it's associated with psoriasis arthritis is often clinically silent and therefore ignored. We present the case of a psoriasis patient who had psoriasis arthritis with SCC joint involvement and an increased SCC uptake, as seen on a skeletal scintigraphy. We present a 54-year-old lady who had dated experiencing her first syndrome of arthralgia to eight years earlier, and whose episodes of psoriasis arthritis, particularly in the knees and distal toes, flared up during the recent 2-3 years. To her surprise, at the time of checking into our medical center joint pain and swollen bump was occurring at the right SCC joint, with some discrete pea-sized skin psoriasis on the left palm being diagnosed as psoriatic arthritis flare up. To differentiate psoriatic arthritis flare up from other diseases, we needed to consider the common causes of SCC joint pain with bump. In addition, certain rare disorders such as palmoplantar pustulosis and Friedrich's disease, which have a predilection for this joint, have been described. Of the images taken, a hybrid image with bone scan in scintigraphic rehabilitation was used in an auxiliary fashion to confirm our diagnosis.

Introduction

Psoriasis is a common skin disease that is associated with multiple coexisting conditions. The most prevalent coexisting condition, psoriatic arthritis, develops in up to 30% of patients with psoriasis and is characterized by diverse clinical features, often resulting in delayed diagnosis and treatment. [1,2] Psoriatic arthritis, one of collectives of the axial spondyloarthritis (SpA), is a chronic, systemic inflammatory arthritis, affecting the peripheral joints, tendons, ligaments, and axial skeleton [3]. Involvement of the Sternocostoclavicular (SCC) joint as associated with psoriasis arthritis is often clinically silent and therefore ignored, which is seen equally in all age groups of both men and women [4]. Structural changes in the SCC region are often associated with other diseases. Most remarkable is the frequent association with Pustulosis Palmoplantaris (PPP) [5-8]. An increased SCC uptake at scintigraphy occurs in 30-50% of patients with psoriatic

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Case Report

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arthritis [9-11], and is located at the sternoclavicular joints in 17% of patients and the manubriosternal joint in 13% [10]. We present a case of a SpA patient who was diagnosed with psoriasis arthritis with SCC joint involvement and an increased SCC uptake at skeletal scintigraphy.

Case Report

A 54-year-old lady had a past history of axial SpA, which was diagnosed as psoriasis when the patient was 9 years of age. She had undergone treatment for the condition using phototherapy over a period of time at a dermatologic clinic, where confirmed her as psoriasis arthritis. Owing to personal reasons, she was unable to follow-up and access treatment response. She dated experiencing her first syndrome for arthralgia to eight years earlier, when several painful joints were noted, particularly in the knees and distal toes. She experienced episodes of pain at the peripheral joints, which localized not only in the greater joints but also in the smaller joints of the hands and feet over the eight years. The patient also had an allergy to a type of pain killer which resulted in the presentation of general skin rash.

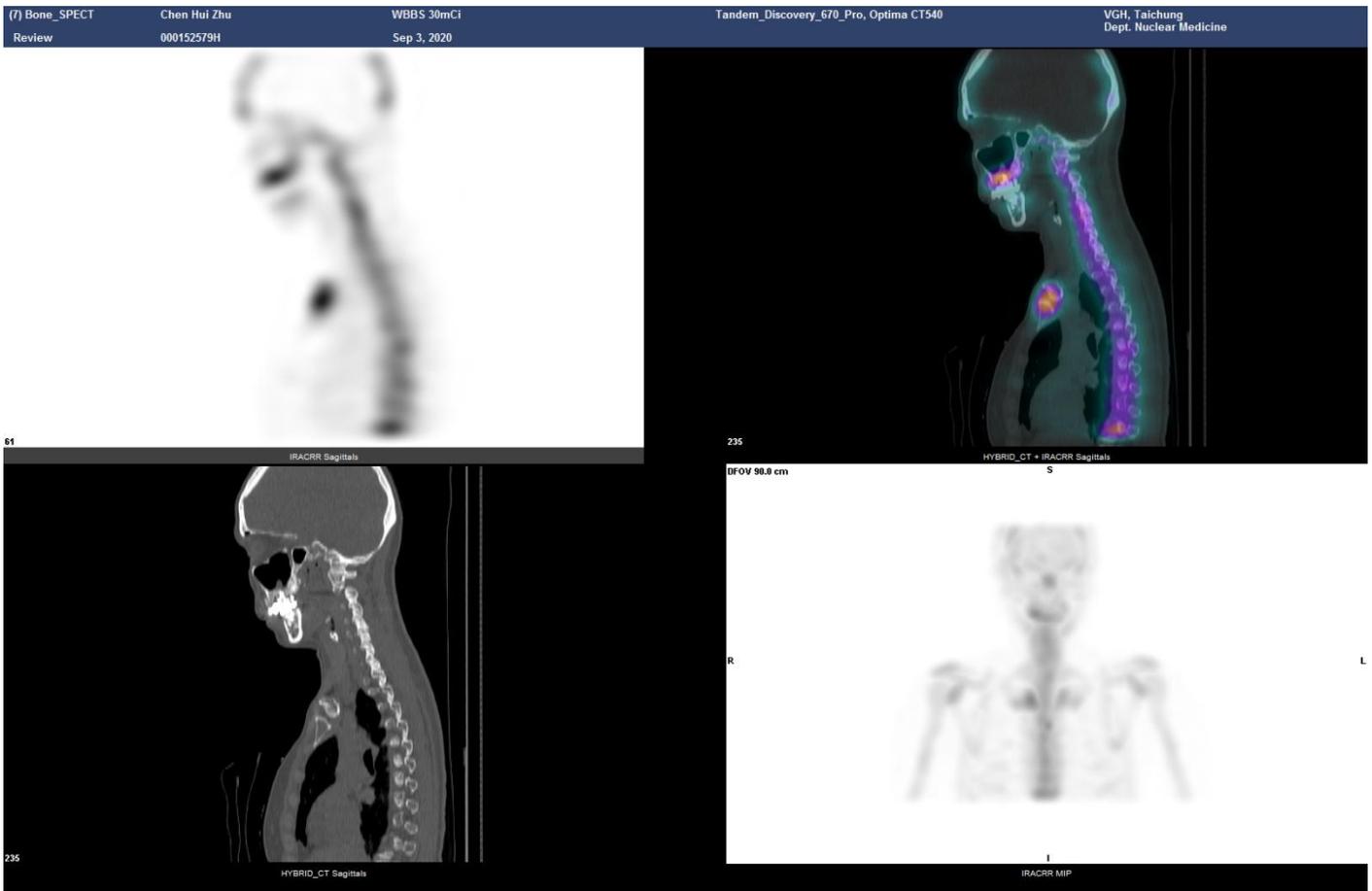
Three weeks prior to her visit to our out-patient center, severe SCC joint pain frequently awakened her from sleep. She described morning stiffness in her shoulder girdles lasting 30 to 60 minutes, while also reporting neck, right shoulder, and sternal pain over the past year. One year earlier, sudden-onset, sharp, constant SCC joint pain radiating to the shoulder girdles had developed, in the absence of inciting trauma or infection. The pain was exacerbated by upper-arm elevation, and could only be alleviated by adequate rest. She was being treated at a rehabilitation clinic for a month with a little improvement, and was therefore referred to our department of rehabilitation after having stopped rehabilitation for half a year. She visited our

out-patient center while experiencing severe pain in the right SCC joint and right upper back over the scapular region during the course of a year. Upon examination, the proximal part of her right clavicle showed swollen bump [Figure 1], and was extremely tender and swelling on palpation. The right shoulder girdle was painful, as were neck movements, though they were not very limited. Pain was worsened by retraction of the shoulder. A Lhermitte's test, compression test, Spurling's test and Roos test were all negative. Slight, erythematous and

silvery scales were seen on her back (Area<10%, PASI: 1.8). Examinations revealed a normal full blood count and bone profile, as well as normal renal and liver function test results. The rheumatologic profiles were all negative. Single-photon Emission Computed Tomography (SPECT) with Computed Tomography (CT) revealed an increased uptake of 99mTc-methylene diphosphonate (99mTc-MDP) at the right SCC joint [Figure 2].



Figure 1: Patient presented with right sternocostoclavicular joint swelling.



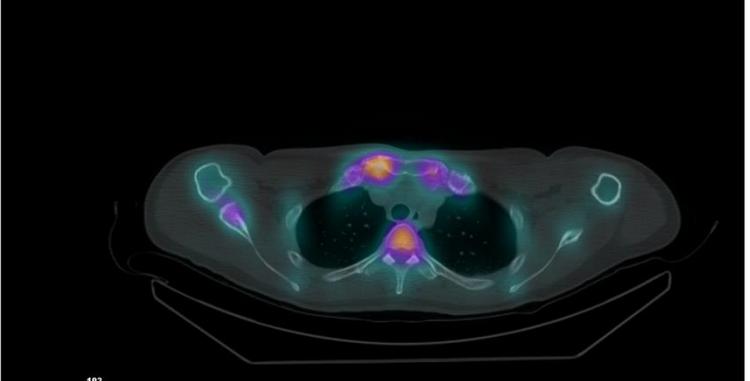
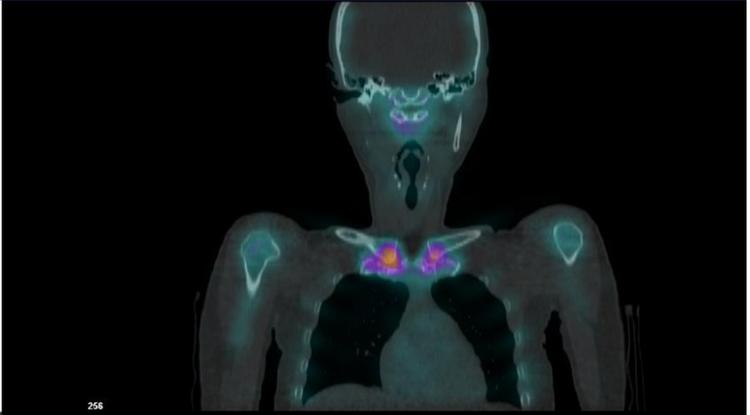
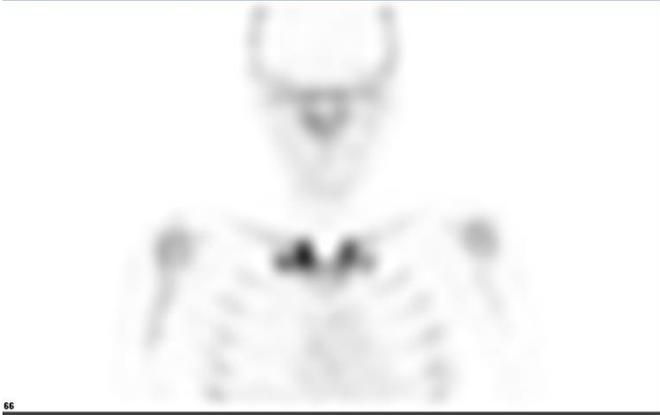


Figure 2: Hybrid images with SPECT/CT of shoulder girdles. There are increased bone uptakes at both sternocostoclavicular joints, seen more on the right side in SPECT images. There are minimal erosion changes at both sternocostoclavicular joints on CT images. Upper panel = axial section; Middle panel = coronal section; lower panel, sagittal section. All panels consist of four distinct photos obtained from delayed bone phase of bone scan (left upper quadrant), SPECT (right upper quadrant), CT (left lower quadrant) and protoimage of bone scan (right lower quadrant).

Discussion

Our patient experienced abrupt swollen bump of the SCC joint as the initial presentation of psoriatic arthritis flare up. Skeletal SPECT/CT showed an increased ^{99m}Tc -MDP uptake at the right SCC joint of the shoulder girdle. The symptoms surrounding psoriatic arthritis flare, such as joint pain and swelling, skin rash, and fatigue, may signal a flare is impending [12]. Our patient dated her first syndrome of arthralgia to eight years prior, when episodes of psoriasis arthritis, particularly in the knees and distal toes, flared up during this period. To her surprise, at the time we diagnosed her joint pain and swelling was occurring at the right SCC joint, with some discrete pea-sized skin psoriasis seen on the left palm which was determined as psoriatic arthritis flare up. In order to differentiate psoriatic arthritis flare up from other diseases, we need to consider the common causes of SCC joint pain with swelling, including degenerative osteoarthritis, septic arthritis, rheumatoid arthritis, crystal deposition disorders, metastatic disease and post-operative involvement after surgery on the neck [13]. In addition, certain rare disorders such as palmoplantar pustulosis and Friedrich's disease, which have a predilection for this joint, have been described [14].

Based upon the patient's medical history, clinical pictures, biochemical profiles and associated images, we diagnosed her as having psoriatic arthritis flare up. Regarding images, hybrid images such as SPECT/CT precisely localized any abnormal foci of tracer uptake, while enabling accurate discrimination between soft-tissue infection, arthritis, and osteomyelitis [15-17], and were used in an auxiliary fashion to confirm our diagnosis. It has been demonstrated that some SCC changes have hyperostotic lesions accompanying PPP [18-20]. Those changes consisted of increased bone remodeling, and periosteal, enthesal or heterotopic bone formation, as well as subacute osseous and soft tissue inflammation [18,19]. With respect to SAPHO syndrome, osteitis is the most prominent skeletal lesion, whereas palmoplantar pustulosis and acne are the main skin lesions [21]. There has been a report published which shows right sternoclavicular joint hyperostosis and PPP in the left foot [21], and our case had a similar clinical presentation. Skeletal scintigraphy is important in diagnosing SAPHO syndrome, particularly for detecting early bone involvement [22-24] The bull's head sign may be seen in bone scintigraphy with ^{99m}Tc -MDP [25]. Our patient had a possible lesion of palmoplantar pustulosis on her left palm, with bone involvement at the right SCC joint, but the X-ray image and SPECT/CT showed no hyperostosis at the SCC joint. SAPHO syndrome could not be diagnosed in our case. In this case report, we present a patient with acute swollen bump of the

SCC joint without hyperostosis as the initial presentation of psoriatic arthritis flare up, with PPP found on the left palm. Hybrid images with SPECT/CT support the accurate diagnosis, which differentiated psoriatic arthritis flare up from other diseases. Our findings in this case provide the insight for SCC joint involvement with psoriasis vulgaris, which may be related to the appearance of PPP.

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