Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 28s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Indonesian Elderly With Psoriatic Arthritis And Scleroderma: A Case Report

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Cite this paper as: Anugrah Perdana Masloman, Lita Diah Rahmawati, (2025) Indonesian Elderly With Psoriatic Arthritis And Scleroderma: A Case Report. *Journal of Neonatal Surgery*, 14 (28s), 690-693.

ABSTRACT

Introduction: Psoriatic arthritis and scleroderma co-occurring was an uncommon case.

Case presentation: An Indonesian woman, 70 years old, complained of pain and stiffness in the right knee and ankle joints. This pain and stiffness reduce as the patient moves or stretches. Meanwhile, she has a history of type 2 diabetes mellitus (T2DM) and has been taking Sitagliptin 100 mg once daily for 10 years. In physical examination, she presented an abnormality in the right knee and ankle joint, with deformity and stiffness in several joints. Additional examination showed that the classification criteria for psoriatic arthritis (CASPAR) score was 3, the disease activity for psoriatic arthritis (DAPSA) score was 20 (moderate), and the modified Rodnan skin score (mRss) was 20 (severe). Then, she has a random blood glucose of 166 mg/dL, GD2PP 209 mg/dL, and HbA1c 8.3%. The immunoserology revealed a solid positive for antigen Scl-70, indicating positive autoantibody in systemic scleroderma. The patient received Myfortic 2×360 mg/day, Methylprednisolone 4 mg once daily, Folic acid 1 mg once daily, Nifedipine 5 mg thrice daily, Sitagliptin 100 mg once daily, and Natrium diclofenac 50 mg twice daily (for pain appearance). She was followed for 6 months and showed improvement after undergoing treatment.

Conclusion: The prognosis of psoriatic arthritis is influenced by early diagnosis, the number of affected joints, and bone inflammation. Meanwhile, the prognosis of scleroderma depends on the symptoms that appear. Therefore, both psoriatic arthritis and scleroderma require comprehensive management, including early diagnosis and treatment of complications to improve quality of life.

Keywords: *Corticosteroid, psoriasis arthritis, Scl-70, scleroderma.*

1. INTRODUCTION

Psoriatic arthritis was a complex chronic inflammatory arthritis that results from psoriasis [1]. Psoriasis is a multisystemic, chronic inflammatory skin disease that primarily affects the extensor areas of the elbows and knees [2]. The global prevalence of psoriatic arthritis is 112/100,000 adults [3]. Meanwhile, scleroderma is a chronic, autoimmune connective tissue disease characterized by thickening and hardening of skin and other tissues [4], with a prevalence of approximately 3.1 – 144.5 per 100,000 people [5]. It is pretty uncommon to have psoriatic arthritis combined with scleroderma at the same time [6]. The study aimed to report on Indonesian women with psoriatic arthritis and scleroderma coincidence.

2. CASE OF PRESENTATION

An Indonesian woman, 70 years old, complained of pain and stiffness in the right knee and ankle joints in the morning for the past 4 months. This pain and stiffness reduce as the patient moves or stretches. The duration of stiffness was from 30 minutes to 1 hour. Meanwhile, the patient also complained of low back pain, which did not spread to the waist or buttocks.

She has a medical history of type 2 diabetes mellitus (T2DM) and has been taking Sitagliptin 100 mg once daily for the past 10 years. The patient also has a history of itching and scaly skin for 1 year. A history of right and left toenails becoming scaly, peeling off on their own, and turning yellowish for the last 1 year (Fig 1). She claimed that no one in the family has a similar disease to hers, nor does anyone have rheumatic or autoimmune diseases.

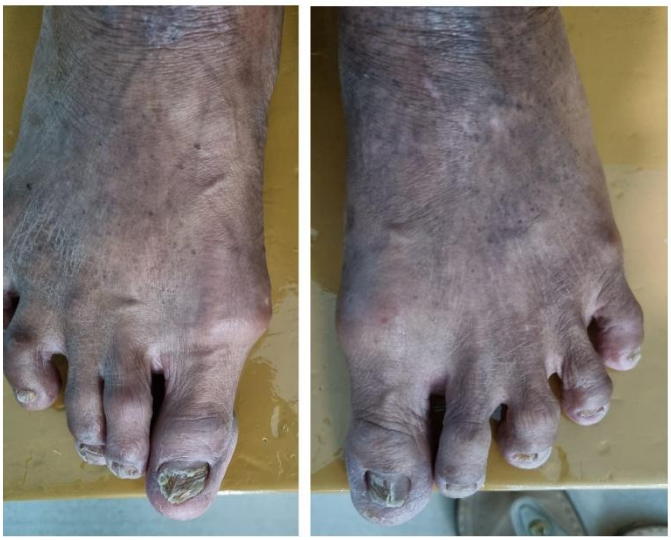

Fig. 1. The lower extremity showed psoriatic nail.

On physical examination, she presented with abnormalities in the right knee and ankle joints. On Gait, Arms, Legs and Spine (GALS) examination, we found Gait: normal walking; Arms: Raynaud phenomenon (+), deformity on proximal interphalangeal (PIP) joints digiti III, IV, V and distal interphalangeal (DIP) joint II-V manus dextra, deformity on PIP joint digiti III and DIP digiti II, III, V manus sinistra, and range of motion (ROM) within normal limits; Legs: psoriatic nails (+), ROM within normal limits; Spine: kyphosis body posture with tragus to wall 11 cm (normal <10 cm), and Schober test 9 cm (abnormal <5 cm). The classification criteria for psoriatic arthritis (CASPAR) score was 3, the disease activity for psoriatic arthritis (DAPSA) score was 20 (moderate), and the modified Rodnan skin score (mRss) was 20 (severe). In addition, the radiological examination of lumbosacral AP/lateral showed pseudo spondylolisthesis VL 4-5 grade II based on Meyerding Classification (Fig. 2).

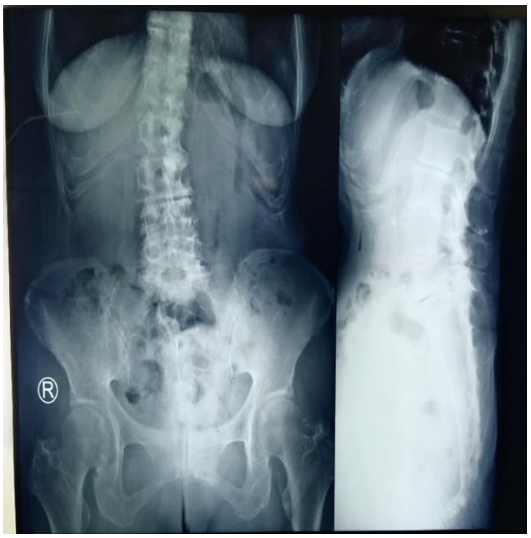

Fig. 2. Degenerative disease of the spine, which could be identified as degenerative disc disease, spondylosis of the lumbar, or dextroscoliosis of the lumbar.

Furthermore, laboratory examination revealed mild anemia with Hb 11.4 g/dL, WBC 9060/µL, thrombocyte 471.000/µL, LED 89, SGOT 19 U/L, SGPT 21 U/L, Albumin 4.22 mg/dL, BUN 27 mg/dL, serum creatinine 1.0 mg/dL, Natrium 142 mmol/L, Kalium 5.0 mmol/L, Chlorida 109 mmol/L, random blood glucose 166 mg/dL, 2-hour postprandial plasma glucose 209 mg/dL, HbA1c 8.3%, CRP 0.32 mg/dL, HBsAg non-reactive, anti-HCV non-reactive. On urinalysis, we found pH 5.5,

yellow color, leukosit 3+, negative nitrit, protein 1+, eritrosit 1+, negative glucose, negative ketone, negative bilirubin, and normal urobilinogen. The immunoserology revealed a strong positive for antigen Scl-70, indicating positive autoantibody in systemic scleroderma.

The patient received MTX of 10 mg once daily, Folic acid 1 mg once daily, Nifedipine of 5 mg thrice daily, Sitagliptin of 100 mg once daily, and Natrium diclofenac of 50 mg twice daily (when pain appeared). One month after beginning the treatment, she has persistent joint pain and skin stiffness. The patient also experienced nausea and vomiting each time after taking MTX. Her laboratory monitoring showed an increase in creatinine serum of 1.5 mg/dL and an ESR of 46 seconds. Therefore, the treatment switched from MTX to Mycophenolate sodium 360 mg twice daily, and additional treatment was Methylprednisolone 4 mg once daily and Calcium Lactate 500 mg once daily, whereas other medications were continued.

After undergoing treatment for 3 months, the joint pain and skin stiffness were reduced. The DAPSA score had improved to 13 (low disease activity), and the mRSS was 15, indicating moderate skin tightening. She also underwent an echocardiography examination to see whether there were any manifestations of cardiac involvement, as well as probable pulmonary arterial hypertension due to systemic sclerosis. The patient's echocardiogram results were normal. Therefore, her treatment was modified; the dose of Mycophenolate sodium was reduced from 360 mg twice daily to 180 mg twice daily. Then, other treatments were continued.

Joint discomfort complaints were rare by the sixth month of treatment, and skin stiffness had significantly improved. The DAPSA score decreased to 4, entering the remission stage. The mRSS was also reduced to 8, indicating mild skin tightness. Meanwhile, the immunoserology result revealed a solid positive for Scl-70 antigen. Despite the increased risk of pulmonary fibrosis, a thorax HRCT examination showed no infection or inflammation in the lung field. Previous treatment was continued except for diclofenac sodium, which was discontinued.

3. DISCUSSION

Autoantibodies against one or more antigens are present in the bloodstream of 95% of systemic sclerosis (SSc) patients. Over 95% of SSc patients have anti-nuclear antibodies (ANA). These include ribonucleic acid (RNA) I, II, and III (20%), fibrillarin, RNA polymerase, PM-Scl, fibrillin-1, and topoisomerase I (formerly known as Scl-70) (20-45%). Antitopoisomerase-I (Scl-70) antibodies are specific (98-100%) for SSc, but not very sensitive, and are associated with an increased risk of interstitial lung disease. Higher concentrations or titers are associated with increased disease activity and broad skin involvement. Anticentromere antibodies (ACA) have limited cutaneous involvement associated with them [7].

Scleroderma management can be divided by symptoms, including Raynaud's phenomenon, skin manifestation, gastrointestinal involvement, pulmonary arterial hypertension, and scleroderma renal crisis. Pharmacological therapies and lifestyle changes can help with Raynaud syndrome symptoms. Calcium channel blockers, angiotensin receptor blockers, and selective serotonin reuptake inhibitors can be used to treat Raynaud's phenomenon. Lifestyle modifications to improve symptoms of Raynaud's phenomenon include using warm clothing, avoiding exposure to cold temperatures, reducing caffeine intake, and quitting smoking. Skin manifestations in scleroderma have been treated with medicines such as topical tacrolimus, calcipotriene, imiquimod, and topical corticosteroids. Tacrolimus is the only one of these agents studied in a well-designed, double-blind, placebo-controlled trial and showed significant improvement in localized disease. Steroids are commonly used in topical therapy, but the expense, side effects, and monitoring should all be considered before using a topical medication. Despite these limitations, topical therapies remain an option for patients with primarily localized disease. UV phototherapy is generally used for localized disease, but there are published reports of its use for patients with scleroderma. It is used in superficial sclerosis because UVB can induce activity of the interstitial matrix metalloproteases, which are involved in collagen breakdown. Systemic disease-modifying antirheumatic drugs (DMARDs) may treat skin problems in both localized and systemic scleroderma [8, 9].

Gastrointestinal involvement is commonly caused by gastroesophageal reflux disease (GERD), which may be treated with antacids or acid suppression therapy. Gastroparesis is one of the stomach side effects that may need the use of prokinetic medicines. Bacterial overgrowth in the small bowel can be treated with cyclic antibiotics and probiotics. PDE-5 inhibitors, which are vasodilators, can help treat pulmonary arterial hypertension (PAH). Pharmacologically, they inhibit the breakdown of the secondary messenger molecule cyclic guanosine monophosphate (cGMP) to help increase the downstream effects of nitric oxide. The FDA has currently approved two agents for PAH: sildenafil and tadalafil. Since PAH may occur independently of scleroderma, the studies that looked at the efficacy and safety of these agents had a heterogeneous patient population. Scleroderma renal crisis (SRC) treatment is based on angiotensin-converting enzyme (ACE) inhibitors. Since their introduction into practice, the 1-year mortality rate has dropped from 85 to 24 percent. Although no randomized control trials have been conducted to demonstrate the benefits of ACE, evaluations of historical data imply better outcomes [9, 10].

The association between systemic sclerosis and psoriatic arthritis is rare [11]. The prognosis of psoriatic arthritis is influenced by early diagnosis, the number of afflicted joints, and bone inflammation. Despite treatment, nearly half of the patients develop bone erosions within two years, with severe disease and high C-reactive protein levels being risk factors for progression [12, 13]. Scleroderma's prognosis differs according to its subgroup. Patients with the limited form may

experience Raynaud's phenomenon before other organ issues develop, and lung, heart, and kidney involvement often determine the disease's course. Although scleroderma remains a severe condition, early detection and management can improve long-term outcomes. Both diseases need comprehensive patient management, including early detection and treatment of complications, that may result in a significantly better prognosis over the patient's life [10, 14].

4. CONCLUSION

Psoriatic arthritis and scleroderma may rarely coexist. The prognosis of psoriatic arthritis is influenced by early diagnosis, the number of afflicted joints, and bone inflammation. Meanwhile, the prognosis of scleroderma depends on the symptoms that appear. In both cases, extensive care, including early diagnosis and treatment, is required to improve quality of life.

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