RESEARCH
www.commprac.com
ISSN 1462 2815

BILATERAL UPPER AND LOWER LIMBS MUSCULOSKELETAL AMYLOIDOSIS WITH OSTENSIBLE POLYARTHRITIS IN YOUNG ADULT – A CASE REPORT

Dr. Suganya M [1]*, Dr. Maragatham S [2], Dr. Parimala L [3] and Sathiyabama G [4]

[1] Associate Professor, Department of Sociology, Saveetha College of Nursing, Saveetha Institute of Medical and Technical Sciences, Thandalam, Tamilnadu, India.
*Corresponding Author Email: suganyam.scon@saveetha.com
ORCID ID: https://orcid.org/0009-0006-8589-0146
[2] Professor, Department of Medical and Surgical Nursing, Saveetha College of Nursing, Saveetha Institute of Medical and Technical Sciences, Thandalam, Tamilnadu, India.
[3] Vice-Principal, Professor, Department of Nursing Foundation, Saveetha College of Nursing, Saveetha Institute of Medical and Technical Sciences, Thandalam, Tamilnadu, India.
[4] Associate Professor, Department of Obstetrics and Gynaecological Nursing, Saveetha College of Nursing, Saveetha Institute of Medical and Technical Sciences, Thandalam, Tamilnadu, India.

DOI: 10.5281/zenodo.12592229

Abstract

Background: Rheumatoid Arthritis is a chronic, autoimmune disorder marked by damaging synovial tissues. It is associated with erosive alterations and particularly affects tiny joints in the body. **Case presentation:** A 19-year-old female adult with ostensible polyarthritis was admitted to the outpatient department. She had bilateral upper and lower limbs musculoskeletal amyloidosis. Her symptoms worsened during the COVID period and continued for one year. Her initial treatment started with glucocorticoids (GC) and methotrexate (MTX). But her symptoms developed. Finally, the treatment with Tab Dexamethasone (4mg), Tab Zerodol, Tab Folvite (5mg), and Tab HCO_3 (200mg) continued, and the patient was put on a regular follow-up schedule. The ESR value decreased (52mm/hr) and the patient's condition improved significantly. **Discussion:** Younger adults with rheumatoid arthritis are dealt with different issues either the disease or the treatment modalities. In this case, a variety of steroid-sparing agents have been employed. **Conclusion:** To manage rheumatoid arthritis in young adults, special consideration is required. Providing adequate education to the patient and appropriate follow-ups could prevent further functional disabilities of musculoskeletal disease.

Keywords: Rheumatoid Arthritis, Musculoskeletal Amyloidosis, Bilateral Limbs, Young Adult, Ostensible Polyarthritis.

INTRODUCTION

Rheumatoid Arthritis (RA) is a systematic autoimmune and inflammatory disorder primarily affecting synovial tissue. It leads to joint destruction and disability. In 2019, 18 million people worldwide were living with rheumatoid arthritis [1]. Approximately 1% of the world's population suffers from RA. Joint pain and swelling with a limited range of motion is a common manifestation of RA. It is a heterogeneous disease that encompasses different subtypes of arthritis, depending on the presence of the enteritis and the number of affected joints [2]. RA patients have an extra-articular manifestation of rheumatoid vasculitis (RV), which started to evolve in the 1960s. The clinical manifestations of vasculitis include skin rashes, cutaneous ulcerations, and visceral infractions. Musculoskeletal amyloidosis (MA) is a complex disease process. It tends to be systemic but frequently poses a diagnostic challenge [3]. Amyloidosis is classified into many types. The four types of systemic amyloidosis are primary arthritis, familial arthritis, wild-type systemic arthritis, and secondary amyloidosis. In RA,

secondary arthritis was the most common type of systemic arthritis. Amyloid deposition presents with a variety of symptoms such as liver involvement, restrictive cardiomyopathy, and nephrotic syndrome [4]. It also presents in peripheral nerves and the gastrointestinal tract. This study is of a 19-year-old young adult with bilateral upper and lower limb musculoskeletal amyloid with ostensible polyarthritis initially diagnosed and managed as a case of RA.

CASE PRESENTATION

A 19-year-old female adult with ostensible polyarthritis was admitted to the outpatient department in a tertiary hospital in Chennai City. She had pain in several small joints in her body for five years. She also presented with generalized bone pain, swelling, and contractures of both knees. On examination, she had bilateral upper and lower limbs musculoskeletal amyloidosis. Her symptoms worsened during the COVID period and continued for one year and were not associated with trauma. Soon she developed a severe morning stiffness lasting up to 2 hours. She was born into a family of non-consanguine parents. Her family history revealed that her relative was affected by RA and was treated for 5 years with methotrexate and rituximab. The laboratory result showed persistently elevated inflammatory markers with a negative antinuclear antibody (ANA) screen. Her initial treatment started with glucocorticoids (GC) and methotrexate (MTX). But her symptoms developed and affected wrists, elbows, ankles, small joints of both hands and legs, and severe uveitis of the right eye. Then a good response was felt after using biologic therapy with infliximab. After a few months, adalimumab was used due to relapses. Again, some joints had a remission characterized by swelling and pain. ESR (Erythrocyte Sedimentation Rate) and CRP (C - reactive protein) were measured. ESR was critically high (119mm/hr) and CRP was negative (7.7mg/dl). During the medication therapy, Tab Zerodol and Tab Wysolone(10 mg) were used and she depended on a daily dose of Tab Rantac and Inj Dexamethasone (100mg). Gradually she had a low bone mineral density, regardless of the vitamin D.

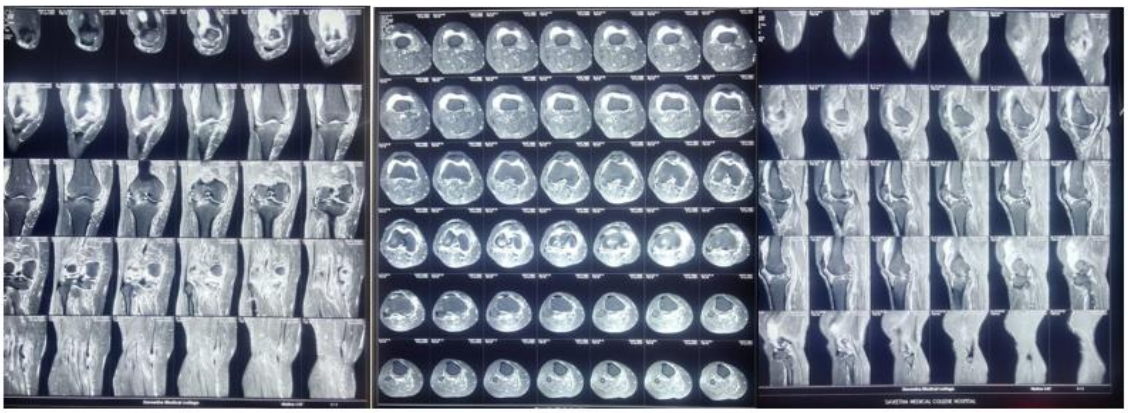

Figure 1 [A] MRI scan showing multiple cross-sectional views [B] MRI scan shows a horizontal slice, with the front (anterior) part of the body at the top of each image and the back (posterior) at the bottom. [C] MRI scan of the knee, which provides a more detailed view of the soft tissues, cartilage, and other structures within the knee joint compared to X-rays

Her investigations showed hemoglobin of 8 g/dl. She received cyclophosphamide (6x) and rituximab (3x). Patient's elbows, shoulders, radiocarpal joints, metacarpophalangeal, distal interphalangeal joints, and both knees had a restricted range of movements. The treatment with Janus kinase (JAK) inhibitor to facitinib was initiated, which led to the gradual amelioration of musculoskeletal symptoms. She had many consequences of the disease by prolonged GC treatment. Finally, the treatment with Tab Dexamethasone (4mg), Tab Zerodol, Tab Folvite(5mg) and Tab HCO_S(200mg) continued, and the patient was put on a regular follow-up schedule. The ESR value decreased (52mm/hr) and the patient's condition had improved significantly.

DISCUSSION

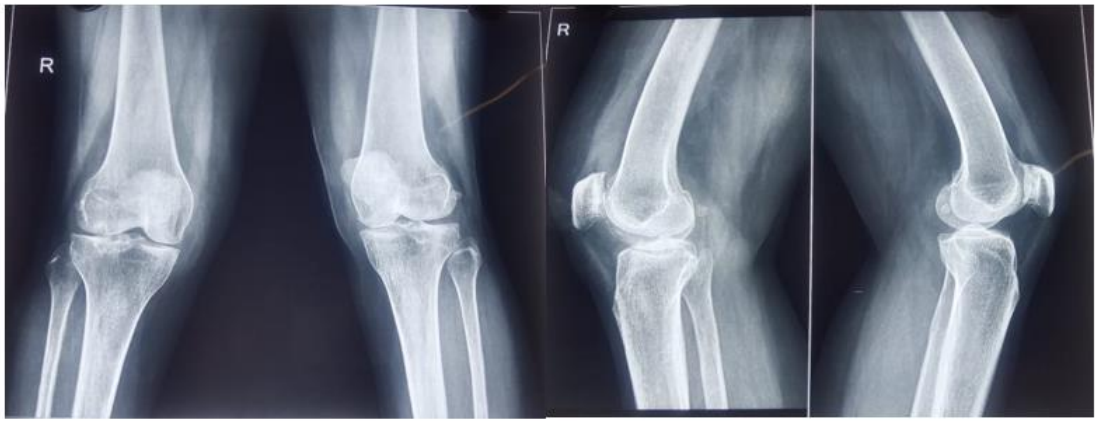

Figure 2: [a] X-ray of the anterior-posterior (AP) view of both knees in a standing position [b] bilateral knee X-ray taken from the lateral (side) view. The X-ray shows the right and left knees of a patient showing the femur (thigh bone), tibia (shin bone), and patella (kneecap).

RA is a chronic, autoimmune disorder marked by damaging synovial tissues. It is associated with erosive alterations and particularly affects tiny joints in the body. It also causes low quality of life and diminished functional ability of the patients [5]. Younger adults with rheumatoid arthritis are dealt with different issues either the disease or the treatment modalities. In this case, a variety of steroid-sparing agents have been employed [6]. The use of the tofacitinib study in patients showed improvement in symptoms and functional disability. Tofacitinib is an oral agent that younger adults should not overlook. Different diagnosis was considered in younger adult patients along with various treatment modalities. This data will be beneficial for physicians as they consider the positives and negatives of treatments. X-rays of the bilateral knee and feet are useful to view changes in inflammatory arthritis [7]. Several clinical trials of rheumatoid arthritis in adult patients have given evidence about the use of facitinib. According to 3 case reports of rheumatoid arthritis [8,9,10] cardiac involvement is the leading cause of organ injury affecting patients with amyloidosis.

CONCLUSION

This study portrays a rare occurrence of bilateral upper and lower limbs RA in younger adults that is rarely reported in the medical literature. To manage rheumatoid arthritis in young adults, special consideration is required [11,12]. Providing adequate

education to the patient and appropriate follow-ups could prevent further functional disabilities of musculoskeletal disease [13]. This case report emphasizes the challenges in the management of young adults with long-term musculoskeletal disease and treatment modalities.

Acknowledgment

We thank the patient and her family members for their permission to conduct the study.

Conflict of interest

Authors of this article have no conflict of interest.

References

1) Rheumatoid arthritis, world health organization (who) 2020, https://www.who.int › newsroom › fact sheets › detail

2) Li X, Cesta A, Movahedi M, Bombardier C. Late-onset rheumatoid arthritis has a similar time to remission as younger-onset rheumatoid arthritis: results from the Ontario Best Practices Research Initiative. Arthritis Res Ther. 2022;24(1):255. doi: https://doi.org/10.1186/s13075-022-02952-1

3) Mena-Vázquez N, Lisbona-Montañez JM, Redondo-Rodriguez R, et al. Inflammatory profile of incident cases of late-onset compared with young-onset rheumatoid arthritis: a nested cohort study. Front Med (Lausanne). 2022;9:1016159. doi: https://doi.org/10.3389/

4) Muchtar E, King RL, McPhail ED, et al. Amyloid arthropathy in smoldering myeloma: Do not take it lightly. Leuk Res Rep. 2021;15:100242

5) Randrianarisoa RMF, Rafanomezantsoa E, Razafindrazaka HA, et al. Light chain Amyloidosis (AL) associated with multiple myeloma revealed by peripheral bilateral polyarthritis: A case report. Clin Case Rep. 2021;9:21

6) Batu ED. Glucocorticoid treatment in juvenile idiopathic arthritis. Rheumatol Int. 2019;39:13–27. doi: https://doi.org/10.1007/s00296-018-4168-0

7) Machado SH, Xavier RM, Lora PS, Gonçalves LMK, Trindade LR, Marostica PJC. Height and sexual maturation in girls with juvenile idiopathic arthritis. J Pediatr (Rio J). 2020;96:100–7.

8) Rosa Neto NS, Bento JCDB, Pereira RMR. Higher rate of rheumatic manifestations and delay in diagnosis in Brazilian Fabry disease patients. Adv Rheumatol. 2020; 60:1–8.

9) Long H, Liu Q, Yin H, Diao N, Zhang Y, Lin J et al. Prevalence trends of site-specific osteoarthritis from 1990 to 2019: Findings from the global burden of disease study 2019. Arthritis Rheumatol 2022; 74(7): 1172-83.

10) Majumder MSM, Ahmed S, Shazzad MN, et al. AL amyloidosis presenting as inflammatory polyarthritis: A case report. Mod Rheumatol Case Rep. 2021;5:391-98

11) Koller-Smith L, Mehdi AM, March L, Tooth L, Mishra GD, Thomas R. Rheumatoid arthritis is a preventable disease: 11 ways to reduce your patients' risk. Internal Medicine Journal 2022; 52:711–6.

12) Devaraj, Navin Kumar. 'The difficult rheumatology diagnosis.' *Ethiopian journal of health sciences* 28, no. 1 (2018): 101-102.

13) Kojima M, Kawahito Y, Sugihara T, et al. Late-onset rheumatoid arthritis registry study, LORIS study: study protocol and design. BMC. Rheumatology. 2022;6(1):90. doi: https://doi.org/10.1186/s41927-022-00322-7