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Research Article

MACULOPAPULAR RASH WITH FEVER AND ARTHRALGIA IN PRIMARY CARE

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Abstract

A 29-year-old male presented to primary care with intermittent fever for four weeks, initially preceded by mild coryzal symptoms, followed by recurrent severe polyarthralgia, myalgia, fatigue, and generalized weakness. A transient, steroid-responsive raised skin eruption initially resembling an allergic or drug-related rash subsequently evolved into a non-pruritic, non-blanching, discoid maculopapular rash involving the face, trunk, and upper limbs, with increased lesions on sun exposure suggestive of photosensitivity. Symmetrical inflammatory involvement of multiple joints, particularly the proximal interphalangeal joints, elbows, knees, hips, and ankles, was noted, along with mild dyspnea and perioral numbness. Investigations revealed elevated ESR and CRP, leukopenia, and elevated liver transaminases, while renal function, platelet count, CPK, LDH, uric acid, and chest radiography were unremarkable; viral hepatitis markers were negative and urinalysis showed no proteinuria. Autoimmune evaluation demonstrated strongly positive anti-Smith and anti-Ro antibodies, with positive rheumatoid factor and negative anti-CCP antibodies. The combination of prolonged fever, photosensitive cutaneous eruption, inflammatory polyarthritis, leukopenia, and disease-associated autoantibodies was highly suggestive of systemic lupus erythematosus (SLE). This case highlights the diagnostic challenge of SLE in a young male, where the initial presentation may mimic an allergic, drug-related, or infectious illness, and emphasizes the important role of primary care physicians in recognizing evolving multisystem autoimmune disease and initiating appropriate rheumatological evaluation and monitoring for organ involvement.

INTRODUCTION

Maculopapular rash with fever & arthritis is a frequent finding in an OPD care, Incidence of such cases ranging from infectious , neoplastic to inflammatory/ connective tissue disorders. A careful evaluation of

history, clinical signs and methodological approach can guide us in the right way.[1]

A maculopapular rash characterized by co-existing flat macules and raised papules often indicates an underlying immune-mediated response or systemic infection. When paired with acute pyrexia and joint pain (arthralgia), this clinical triad serves as a hallmark presentation for a broad spectrum of etiologies.[2]

Systemic lupus erythematosus (SLE) is a chronic, multisystem autoimmune disease characterized by a broad spectrum of clinical manifestations and the production of diverse auto antibodies.[3] Its presentation can range from constitutional symptoms and mucocutaneous disease to inflammatory arthritis, hematological abnormalities, renal involvement, cardiopulmonary manifestations, and neuropsychiatric disease. Because of this marked clinical heterogeneity, the initial presentation may mimic common infectious, allergic, rheumatological, or dermatological disorders, particularly when symptoms evolve over time. The 2019 European League Against Rheumatism/American College of Rheumatology (EULAR/ACR) classification framework reflects this multisystem nature by incorporating clinical and immunological domains, with positive antinuclear antibodies (ANA) as the entry criterion and subsequent weighted clinical and serological features used for classification.[4]

Cutaneous manifestations and inflammatory musculoskeletal symptoms are among the important clinical features that may bring patients with SLE to primary care. Photosensitive cutaneous eruptions, arthralgia or inflammatory polyarthritis, constitutional symptoms, and hematological abnormalities such as leukopenia may occur together and should prompt consideration of an underlying systemic autoimmune disorder.[5] The presence of disease-specific auto antibodies, particularly anti-Smith (anti-Sm) antibodies, can provide important diagnostic support in the appropriate clinical context. At the same time, classification criteria are primarily designed for research classification and should not substitute for individualized clinical diagnosis; alternative infectious, drug-related, malignant, and other autoimmune causes must be appropriately considered.[6]

The present case describes a 29-year-old man with a prolonged, intermittent febrile illness associated with severe migratory or episodic joint pains, myalgia, fatigue, photosensitive maculopapular cutaneous lesions, and inflammatory polyarthritis involving multiple peripheral joints.[7] The accompanying leukopenia, elevated inflammatory markers, and strongly positive anti-Sm and anti-Ro antibodies, together with the absence of significant renal abnormalities at presentation, create a clinically important diagnostic pattern suggestive of systemic autoimmune disease.[7] The case is particularly noteworthy because SLE in a young male may be less readily suspected when the initial presentation resembles an allergic or post-infectious illness. Recognition of the evolving constellation of mucocutaneous, musculoskeletal, hematological, and immunological findings is therefore important for timely diagnosis and

appropriate specialist evaluation. Current EULAR recommendations emphasize early recognition of SLE, regular assessment for organ involvement, and individualized management according to disease activity and the organs affected.[8]

CASE DESCRIPTION

A 29 year male came with Fever on off 4 weeks duration, initially mild coryza like symptoms were noted which improved with symptomatic treatment. There was an on & off complaints of severe joint pains, myalgia, generalized fatigue and weakness. There was a gradual development of rash which was initially a raised area of skin of varying size and appearance which gets cleared with iv cortisone and does not appear for next 2-3 days.

This was similar to an allergic rash when it was initially thought due to some allergy to medication. The next few days the rash progressed to a maculopapular rash of discoid shape all over the arms & trunk including face which increased in number and size on exposure to sun suggestive of Photosensitivity. There was a symmetrical pain of multiple joint involvement especially elbows, PIP, knee, Hip, Ankle. There was tenderness and signs of inflammation noted over the joints. The patient also complained of mild dyspnea at rest and perioral numbness.

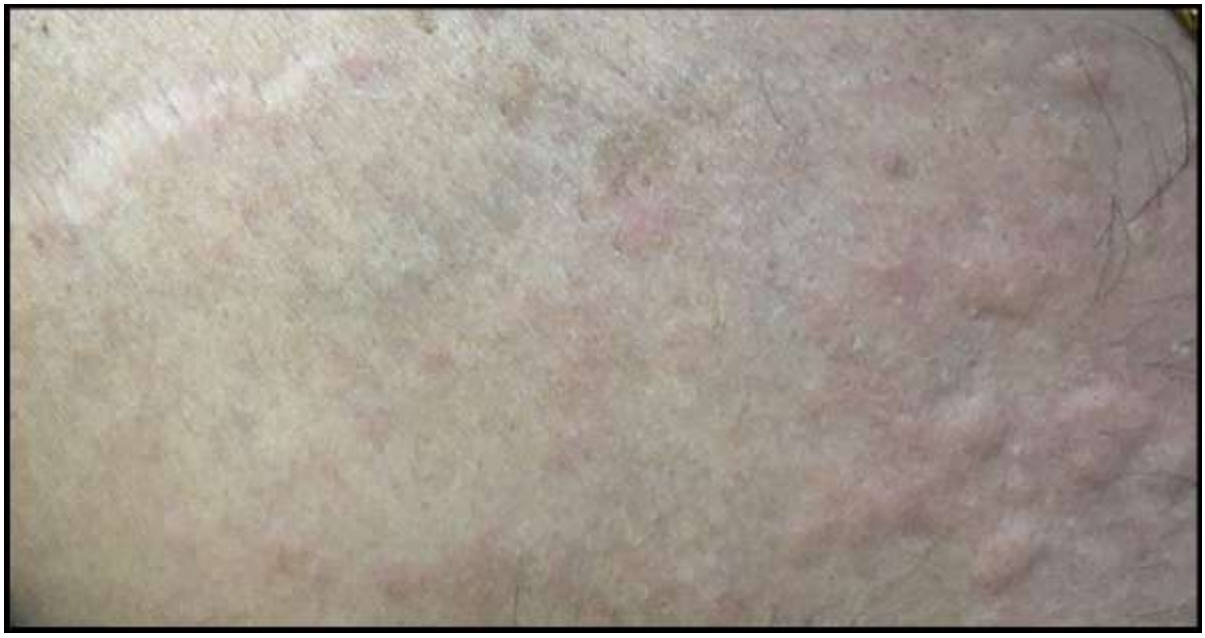
Personal History includes he was a smoker half pack per day for the last 5 years, he was a social drinker. Takes mixed diet, occupation as Site Engineer. Family history non significant. Past medical history includes TB at child hood, In last 6 months he was screened for Ultrasound whole abdomen and Neck for nonspecific fatigue and weakness, the scan showed Fatty Liver with Sub Mandibular LN normal morphology, no FNAC was done.

Vitals Temp: 37.5 deg C (max recorded at any visit 38 deg C), BP 130/80 HR 88/min RR
16/min Sp02 99 %.

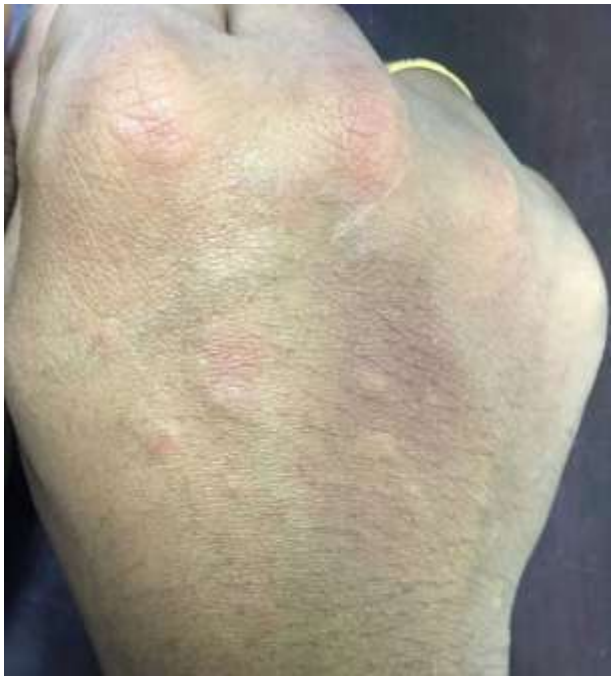
GCOE shows anxious adult with no signs of pallor icterus cyanosis clubbing LA Edema. Systemic examination includes Lungs B/L AE with no crepitations no wheeze no abnormal breath sounds, CVS normal S1+S2+ no murmurs, P/A soft non tender no organomegaly, CNS NAD, Musculoskeletal & Integumentary System shows joint tenderness redness inflammation in both hands PIP joints elbow knee ankle, with discoid shaped rashes noted non pruritic non blanching maculopapular over the face trunk arms.

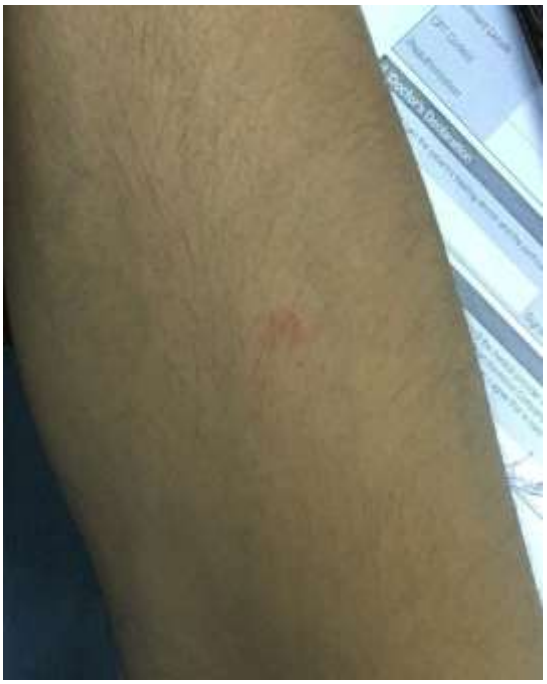
Lab evaluation done shows elevated inflammatory markers ESR & CRP, Leukopenia with normal platelet count, Raised SGPT/OT, Ultrasound scan shows Grade 2 Fatty Liver, cell lysis and turn over markers CPK, LDH, Uric acid are within normal limits, CXR normal cp angle clear no signs of PHTN, Renal Function test wnl, mild urine calcium oxalate crystals no proteinuria, Viral Hep markers negative, ANA shows Anti SM & Anti Ro strong

positive ++++, Anti CCP negative with positive RA factor.



(Above) Initial Presentation of Rash - raised skin of various sizes and shapes





(Above) discoid shape maculopapular rash

We have done EULAR/ACR scoring which shows a score of 21 for SLE with anti SM+ which is an immunological marker. In a background of ANA positive and one at least clinical criteria

present and a score of min 10 satisfying the criteria for SLE.

DISCUSSION

SLE is a multi system inflammatory disease secondary to autoimmune cause producing various auto antibodies, although the exact cause is still unknown etiology various pathophysiological mechanisms have been described ranging from genetic, environmental, hormonal, immunoregulatory etc.[9]

In September 2019, the European League Against Rheumatism (EULAR) and the American College of Rheumatology (ACR) published new criteria for the classification of SLE. The EULAR/ACR criteria have a sensitivity of 96.1% and specificity of 93.4% in comparison to 96.7% sensitivity and 83.7% specificity of the 2012 Systemic Lupus International Collaborating Clinics (SLICC) classification criteria.[10]

The patient was started on on mild to moderate dose of NSAIDS for pain relief, topical low potent steroids , also tapering dose of oral steroids over one month along with HCQ after dilated Fundus examination at Ophthalmology. Labs were sent for C3C4 levels, skin biopsy for Lupus Band testing, anti b2gp1 antibodies results awaited. Subspeciality consultations with Rheumatology needed in future in case of recurrence of rash/arthralgia or prolonged use of steroids unable to taper - such cases need immunosuppression with Methotrexate/ Azathioprine or newer molecules. Other specialities include Nephrology if renal lupus suspected, Cardiology if signs of pericarditis and HF. In patients presenting with neuropsychiatric symptoms secondary to underlying ongoing inflammation hence immunosuppression may be considered. The patients with SLE are more prone for Vitamin D deficiency, hence adding Vitamin D may have benefits in cardiovascular disease by improving endothelial integrity, also benefits shown in improving fatigue.[11]

Long term prognosis is very much variable in each individual depending on organ system involvement, cutaneous type have favourable prognosis compared to renal and neuro involved SLE. The patient may have variable course of disease waxing and waning, but few studies in Toronto showed survival 5 yr after diagnosis 92%, the prognosis falls to 82% survival at 10 yr, 76% at 15 yr and only 68% at 20 yr. Quarterly checkups needed with regular labs includes monitoring of renal, hepatic, cardiac, lung function, also careful observation of side effects of long term steroids includes bone diseases to opportunistic infections.[12]

CONCLUSION

This case highlights the importance of considering systemic lupus erythematosus (SLE) in young patients presenting to primary care with prolonged low-grade fever, constitutional symptoms, inflammatory polyarthralgia, and evolving cutaneous manifestations. The initially transient, steroid-responsive rash mimicked an allergic or drug-related eruption but subsequently progressed to a non-pruritic,

photosensitive maculopapular rash involving the face, trunk, and upper limbs, accompanied by symmetrical inflammatory involvement of multiple joints, leukopenia, and elevated ESR and CRP. The strong positivity for anti-Smith and anti-Ro antibodies, together with the clinical findings, provides significant support for an underlying systemic autoimmune disease consistent with SLE, while the absence of proteinuria or renal dysfunction indicates no evident renal involvement at the time of evaluation. The positive rheumatoid factor with negative anti-CCP, in the context of photosensitivity and lupus-associated auto antibodies, makes rheumatoid arthritis alone less likely to account for the overall presentation. This case emphasizes that SLE may initially mimic common infectious or allergic conditions and that recognition of the combination of photosensitive rash, inflammatory polyarthritis, leukopenia, and specific auto antibodies is crucial for early diagnosis, appropriate specialist referral, and systematic monitoring for future organ involvement.

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