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Secondary Syphilis Mimicking Systemic Lupus Erythematosus: The First Two Cases Reported in Sudan

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Abstract: *Systemic Lupus Erythematosus (SLE) is a systemic, autoimmune inflammatory disease with an unknown aetiology and various presentations. Many infections, certain drugs and dermatological diseases may mimic SLE. this report describes two case of SLE mimicked by secondary syphilis. A 24 years old lady complained of maculopapular skin rash, fever, loss of weight and cough, joint pain and multiple skin ulcer for five months. The second case A 55 years old female, with history of Multiple miscarriages, presented with multiple joint pain, hair loss, progressive weight loss, hyperpigmented and lacerated skin. Routine and specific investigation such as Erythrocyte sedimentation test (ESR), C-reactive protein (CRP), antinuclear antibody profile (ANA) ,all were suggest a diagnosis of SLE. patients received Prednisolone, Methotrexate, Folic acid, calcium carbonate and Hydroxychloroquine (HCQ). With no marked improvement, Venereal Disease Research Laboratory Test (VDRL) was conclusive for a diagnosis of syphilis on top of SLE. Patients then received Benzathine penicillin alongside with Doxycycline and in few weeks patients were fully recovered then discharged with repeated negative VDRL test and regular follow up.*

Keywords: *SLE; syphilis; VDRL; Multiple miscarriage*

Introduction

Wide spectrum of clinical manifestations can be seen in different infectious diseases, which may mimics features of chronic inflammatory diseases such as SLE (1), SLE is a systemic autoimmune inflammatory disorder with an unknown aetiology(2). The pathophysiology of SLE can be explained by the deposition of immune complexes in body organs, which can trigger complement and inflammatory mediators (3).

SLE symptoms are greatly varied, constitutional symptoms like fatigue, are multifactorial and have been associated not only to disease activity but also to complications such as hypothyroidism or anaemia (4). Many drug-induced rash, primary dermatological conditions and infectious diseases such as can mimic the malar rash of acute cutaneous lupus (1).

Here we describe a two patients who presented with symptoms and signs compatible with both SLE and secondary syphilis.

Case (1)

A 24 years old lady presented to the Rheumatology department of Haj Al-Safi Teaching Hospital, Khartoum, Sudan, in December 2018. The patient complained

of maculopapular skin rash, fever, loss of weight and cough for five months. She sought medical advice several times, Yet, she was not diagnosed nor she was admitted to any hospital. The skin rash was the first manifestation of her illness commenced as skin ulcers, small to medium in size, involved the face (sparing nasolabial folds), neck, palms and soles (Fig 1). It was associated with itching, generalized joint pain which eventually resulted in limitation of her movement. Fever was mainly nocturnal, high grade, not associated with rigours, sweating or convulsions; and not relieved by antipyretics.

She also complained of difficulty in swallowing of solid food, bilateral knee and hip joint pain. The patient also had a past medical history of hyperthyroidism.

on examination, the patient was cachectic, pale, not jaundiced, pulse was small in volume, regular, sinus tachycardia, febrile and hypotensive. No neck swellings and no clubbing were noticed in her fingers or toes.

There were multiple small ulcerated areas observed in different parts of her body with tough skin complexity especially noticed over the palms and soles (Fig 2). Cardiovascular system examination revealed a galloping beat.

There was localized alopecia of the scalp, hyperpigmented areas of healed ulcers grossly over the neck, healed ulcers over both knee joints, and other small and large joints of both upper and lower extremities. Other systems examination showed no significant finding. Full blood count was done and all parameters were normal, renal function test also normal, CRP was > 6 mg/dl, Serum Albumin was 2g/dl (normal range is 3.4 to 5.4 g/dL), urine general showed protein and uncountable pus cells. ANA profile, ANA Enzyme-linked immunosorbent assay (ELIZA) were done and all were positive (Table 1). According to this result a diagnosis of Systemic Lupus Erythematosus and Vasculitis were considered. The patient received Prednisolone tabs 20mg daily, Methotrexate 15 mg weekly, Folic acid 5mg daily, calcium carbonate 500mg daily and Hydroxychloroquine (HCQ) 200mg/twice per day. But no obvious improvement was noticed.

Suspicion of sexually transmitted disease such as syphilis was suspected, ICT for VDRL was done and was conclusive to the diagnosis (table 1), Antiphospholipid antibodies test were also done and all were negative. The patient then received Benzathine penicillin 2.4million IU single-dose/week for consecutive 3 weeks and Doxycycline 100 mg twice daily for two weeks, Following the commencement of therapy with continuations of the HCQ.

And Soon patient's condition started to improve dramatically. Symptoms were gradually subsided and completely recovered after three weeks from receiving penicillin. Patient discharged with HCQ 200 mg, and repeated negative VDRL test and regular follow up.

Table (1): Lab investigation for syphilis and SLE diagnosis.

Investigation	Result
ICT VDRL	Positive titre for Treponema Pallidum
ANA Profile	Strong positive ++ AM, centromere B Ro- 52 recombinant strong positive
ANA ELISA	Positive titter 1/320

Figure 1: A and B shows Skin manifestations (facial Hyperpigmentation), C demonstrates areas of the scalp affected with alopecia.

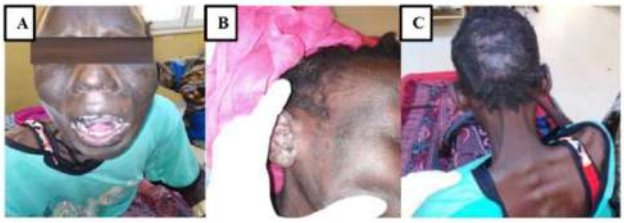
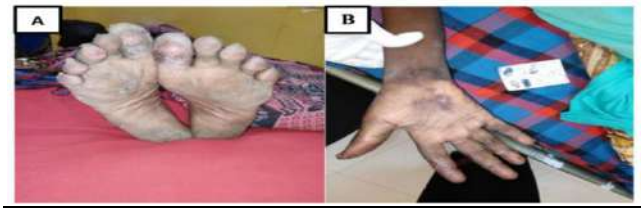


Figure 2: A&B demonstrates healed ulcers in the palms of the hand and hyper-pigmented skin in the soles of both feet.



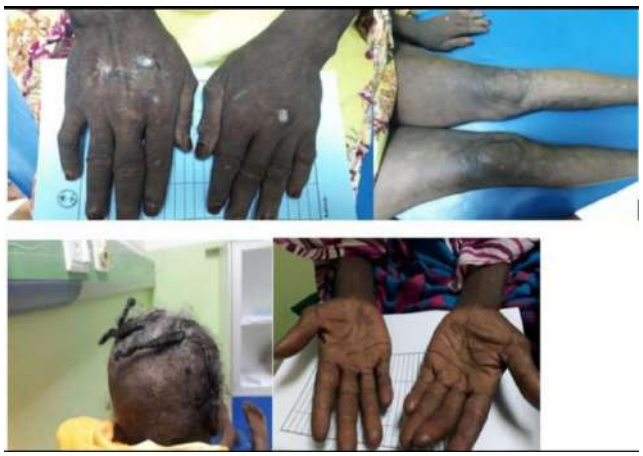
Case (2)

A 55 years old female, para 6 +6 ,with a history of 6 miscarriages, presented to the rheumatology department, Al Ribat teaching hospital, Khartoum, Sudan, on August 2018, with multiple bilateral small and large joints pain for one year, long term hair loss, hyperpigmented and lacerated skin lesions for 3 months with progressive weight loss. She is not known to be diabetic or hypertensive. The patient sought medical advice, but her condition had not improved, despite several medications she had received.

During examination, polyarthralgia was noticed in multiple small and large joints of the body. Increased subcutaneous thickness and alopecia (fig 3). No synovitis, no calcinosis nor any weakness noticed. Others systems examination was unremarkable,. full blood count and renal profile were of normal values, Erythrocyte Sedimentation Rate (ESR) are 110mm/h (normal value from1–20 mm/h), anti-cyclic citrullinated peptide (anti-CCP) antibodies are positive, Global ANA profile is positive, serum Autoimmune antibodies were also positive for ANTI – RO/SSA and VDRL was also conclusive to the diagnosis of secondary syphilis with autoimmune disease.

The patient received the same management of case (1), showed gradually improvement and all symptoms subsided within one month, Patient discharged with a serious of negative VDRL test, HCQ tabs 200mg and a regular follow up.

Figure 3: Skin manifestations noticed involving the skin of the hands, both legs with remarkable alopecia



Discussion

Skin involvement can occur in about 70–80% of SLE patients, including the classic malar and discoid rashes, scarring alopecia, mouth ulcers and photosensitivity. Others cutaneous features of SLE include livedoreticularis, Raynaud phenomenon, telangiectasias, urticarial and vasculiticpurpura(4). Syphilis is a sexual transmitted disease caused by spirochete Treponemapallidum, secondarysyphilis is characterized by lymphadenopathy, fever, anorexia, malaise, a mucocutaneous rash and weight loss (5).

Both patients constellation of features compatible with both SLE and secondary syphilis such as fatigue, fever, weight loss, malaise, joint pain, hair loss, maculopapular skin rash, and hyperpigmentationsskins. In addition to a positive ANA profile, elevated ESR and CRP which suggested the diagnosis of SLE (6-8). And positive VDRL test for syphilis disease.

The history of thyroid disease in the first patient and multiple miscarriages in the second patient were both indicated an autoimmune disorder associations, as is been widely reported thyroid disease has a strong relation to SLE development (9), and multiple miscarriages occurs as consequences of autoimmune disease (10).

The immunological background of SLE plays a role in the susceptibility of the patient to infections and presentation of a typical features such as urinary tract infections (UTI) and Community-acquired pneumonia (11), this is going in the line of the first case, her urine analysis indicated features of UTI. Considering SLE patient is an immunocompromised due to the nature of the disease and their treatment, syphilis could be seen as opportunistic infection (12).

SLE treatment has three main aspect: managing acute periods of potentially high risk conditions, minimising the threats of flares during periods of stability and monitoring the incapacitating regular symptoms. HCQ and non-steroidal anti-inflammatory drugs (NSAIDs) are used for non-severe disease, In contrary immunosuppressive therapies and corticosteroids are reserved for the high risk and major organ involvement(3).

The limitations of this study arethe diagnostic test were limited due to inadequate resources, thus we were unable to performe more tests such as wound swab for culture and sensitivity, urine culture and sensitivity, direct microscopy and fluorescent test.

In conclusion, SLE is a disease of greatly varied symptoms and signs. Certain infectious, dermatologic disorder and drugs often Mimic the features of chronic inflammatory disorders, these clinical manifestations known as the great imitator. This report presents a two cases with syphilis mimicking SLE.

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The second case diagnosed by Dr Hassan Yousief Abdelrahman and followed up by Dr Noha Ibrahim A Eltahir and Dr Ziryab Imad Taha.

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