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Case Report

Silent lupus nephritis: a case report

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ABSTRACT

Systemic lupus erythematosus (SLE) is a multiorgan acquired autoimmune disease. The clinical picture can vary greatly. Lupus nephritis (LN), which affects about 50% of SLE patients, is associated with high morbidity and death. While renal histologic alterations are evident in almost all patients with SLE, clinical renal involvement only affects 40% to 75% of those individuals. Because of this, some patients who have nephritis on their renal biopsy may not actually have clinical kidney disease (silent nephritis). In this article, we discuss a case of silent lupus nephritis (SLN) with respect to clinical presentation, laboratory findings, diagnosis and outcome.

Keywords: Systemic lupus erythematosus, Nephritis, Renal biopsy

INTRODUCTION

The clinical history of systemic lupus erythematosus (SLE), a chronic autoimmune illness that affects numerous organs, includes periods of exacerbation and remission. Loss of immunological tolerance to self-antigens results in the development of pathogenic autoantibodies that induce tissue damage. This process is influenced by genetic, immunological, endocrine, and environmental variables.[1,2] The impact is greater on women, particularly throughout the reproductive years. Globally, there are 6.5 to 178 cases of SLE for per 100,000 people, however the prevalence in India is 3.2 per 100,000 people.[3,4] SLE can cause a wide range of complications that can affect many organ systems in the body. Musculoskeletal, cutaneous, renal, neuropsychiatric, pulmonary, cardiac, haematological, and gastrointestinal complications are among the prominent complications. Lupus nephritis (LN), which is associated with considerable morbidity and death, develops in about 50% of SLE patients.[5,6] Many different clinical and pathological features of SLE are present in LN. From asymptomatic microscopic hematuria to renal failure, overt LN (OLN) symptoms might vary. Some persons with silent LN (SLN) may have pathological evidence of renal involvement proven by a renal biopsy even when there are no clinical or laboratory markers of renal impairment.[7] Patients with SLN typically experience mild pathological abnormalities. However, certain patients may develop diffuse proliferative glomerulonephritis, which is unfortunately associated with a 60% mortality rate.[8] Patients with severe histological lesions typically exhibit significant renal clinical symptoms, even though the severity of clinical renal presentations does not always match with the degree of the pathological abnormalities.[9] The gold standard method for identifying and classifying renal impairment and assessing disease activity is percutaneous renal biopsy. For people with SLN, a renal biopsy is crucial to get a precise diagnosis and quickly identify renal involvement.[10]

CASE REPORT

A 29 years old female, known case of hypothyroidism for 3 years (on treatment), parity 5 abortions 3 live issues 2 strict vegetarian by diet and with no addiction history presented with the complaints generalised swelling for about 1 month. On examination patient was conscious and oriented with only findings being severe pallor and bilateral pedal oedema. Examination of all the systems was unremarkable. Patient was investigated on the lines of

anaemia with hypo-proteinemia and was found to have a haemoglobin level of 4.7 gm%, platelet count 91 k/cu.mm. Renal function of the patient was assessed with blood urea 88 mg/dl and serum creatinine 2.19 mg/dl. Patient's serum albumin level was found to be decreased, 2.4 g/dl. Transferrin saturation was 18.9%. Hydration status was assessed via IVC and was found to be hypovolemic. Patient was managed conservatively with fluids and packed red cell transfusion. Ultrasound examination of abdomen was done which revealed increased cortical echogenicity of both kidneys with ill-defined cortico-medullary differentiation. Urine analysis was done and was found to be within normal limits. With conservative management, patient's general status and renal function improved however the main complaint of oedema was still not improved. On the basis of history of pregnancy loss and patient profile with respect to age and sex, a screening ANA test and 24-hour total urinary protein (TUP) levels were obtained. ANA was found to be positive but 24-hour TUP was traces. Patient was further investigated and found to have raised anti-dsDna level (307.39 IU/ml) and low complement levels (C3 19.6 mg/dl, C4 <8 mg/dl), however direct coomb's test and urine for dysmorphic RBC's was found to be negative. According to SLICC criteria, patient was diagnosed as a case of SLE but no renal involvement (with respect to microhematuria or proteinuria) was found. A percutaneous renal biopsy was obtained which showed: endocapillary cellularity with intracapillary neutrophil/mononuclear cell margination, diffuse thickening and intramembranous mottling of capillaries, tubular atrophy and interstitial fibrosis involving about 10-15% of sampled cortex, and tubules showing focally prominent cytoplasmic vacuolar change and patchy acute injury.

These findings were conclusive of co-existing lesions of membranous lupus nephritis: ISN/RPS class V and diffuse lupus nephritis: ISN/RPS (2018) class IV; and indices (modified NIH*) of disease activity 9/24 and chronicity 4/12. Patient was diagnosed as a case of silent lupus nephritis (SLN) and was started on hydroxychloroquine and prednisolone 1 mg/kg/day. On a recent 1-month follow-up, patient had no complaints and a stable renal function.

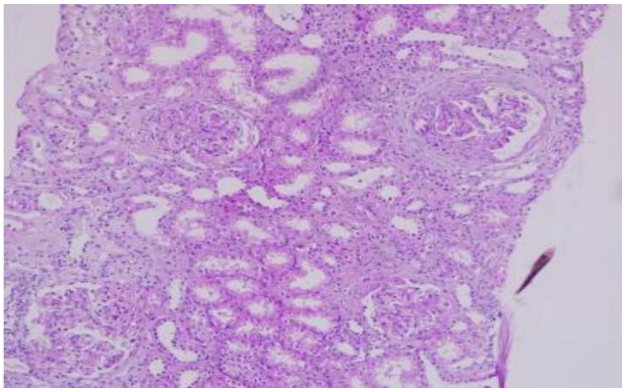

Figure 1: Renal biopsy of patient, suggestive of LN (4-5).

DISCUSSION

Lupus nephritis (LN), which affects about 50% of SLE patients, is associated with high morbidity and mortality. Women in reproductive age are typically affected. SLE has an impact on pregnancy outcomes even though these patients typically have the ability to conceive and the women report being fertile. Pregnant women with SLE have a substantial association with poor pregnancy outcomes, according to a recent Taiwanese study.[11] There are several risk factors for a poor prognosis. Some of them include hypertension, antiphospholipid syndrome (APS), lupus activity, the degree of proteinuria, a previous miscarriage, hyperprolactinemia, and renal involvement.[12] In terms of histological results, a recent study found that the majority of patients in the SLN group showed intermediate histological staging (classes II and III) compared to the OLN group (classes IV and V).[13] Similarly, another study showed stage II was the predominant stage, among patients with SLN, whilst stage V was the predominant stage among the OLN patients.[14] Treatment for active lupus nephritis includes intravenous steroid pulse followed by an oral steroid taper, extra immunosuppressive medications such tacrolimus or azathioprine may be used as well. As it is safe to take during pregnancy, lowers the risk of congenital heart block in offspring of mothers who are anti-Ro positive by at least 50%, and is linked to superior long-term renal outcomes, hydroxychloroquine is the drug of choice for maintaining lupus remission.[15]

CONCLUSION

As lupus nephritis carries a significant level of mortality and morbidity, the earliest possible diagnosis and initiation of management remains the cornerstone of prognosis. This has great emphasis especially on females in reproductive age group as the management and the maintaining of remission of lupus is required for uneventful pregnancy.

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REFERENCES

1. Putterman C, Caricchio R, Davidson A, Perlman H. Systemic lupus erythematosus. Clin Dev Immunol. 2012;437282.
2. Vaillant A, Akpaka EP, Poonking P. Systemic Lupus Erythematosus: some Epidemiological and Clinical Aspects. Am J Public Health Res. 2015;3(2):46-50.
3. Estel GJ, Quintana R, Alarcón GS, Sacnún M, Gil MF, Estel BA, et al. A 12-year retrospective review of bullous systemic lupus erythematosus in cutaneous and systemic lupus erythematosus patients. Lupus. 2018;27(10):1753-4.
4. Lewis MJ, Jawad AS. The effect of ethnicity and genetic ancestry on the epidemiology, clinical features and outcome of systemic lupus

erythematosus. Rheumatology (Oxford). 2017;56(1):67-77.
5. Maidhof W, Hilas O. Lupus: an overview of the disease and management options. Pharm Therap. 2012;37(4):240.
6. Almaani S, Meara A, Rovin BH. Update on lupus nephritis. Clin J Am Soc Nephrol. 2017;12(5):825-35.
7. El-Sayed KM, Mohamed EA, Rashed ASM, El-Aziz Shehata MSA, Mandour EMR, et al. Renal histopathological profile in patients with silent lupus nephritis. Al-Azhar Medl J. 2021;50.
8. Xu S, Liu Z, Chen H, Zeng C, Zhang H, Hu W. Diffuse segmental and pure diffuse global proliferative glomerulonephritis: different patterns of class IV lupus nephritis. Clin Nephrol. 2014;81(6):411-8.
9. Baldwin DS, Lowenstein J, Rothfield NF, Gallo G, McCluskey RT, et al. The clinical course of the proliferative and membranous forms of lupus nephritis. Ann Intern Med. 1970;73:929-42.
10. Hsieh SC, Tsai CY, Yu CL. Potential serum and urine biomarkers in patients with lupus nephritis and the unsolved problems. Open Access Rheumatol. 2016;8:81-91.
11. Chen CY, Chen YH, Lin HC, Chen SF, Lin HC. Increased risk of adverse pregnancy outcomes for hospitalisation of women with lupus during pregnancy: a nationwide population-based study. Clin Exp Rheumatol-Including Suppl. 2010;28(1):49.
12. Wagner SJ, Craici I, Reed D, Norby S, Bailey K, Wiste HJ, et al. Maternal and foetal outcomes in pregnant patients with active lupus nephritis. Lupus. 2009;18(4):342-7.
13. Gouda W, Abd Elaziz Alsaid A, Abbas AS, Abdel-Aziz TM, Shoaeir MZ, Abd Elazem AAS, Sayed MH. Silent Lupus Nephritis: Renal Histopathological Profile and Early Detection with Urinary Monocyte Chemotactic Protein 1. Open Access Rheumatol. 2022;14:161-70.
14. El-Sayed KM, Mohamed EA, Rashed AM, Shehata MSAE, Mandour EMR. Renal histopathological profile in patients with silent lupus nephritis. Al-Azhar Med J (Medicine). 2021;50(2):1281-92.
15. Rahman FZ, Rahman J, Al-Suleiman SA, Rahman MS. Pregnancy outcome in lupus nephropathy. Arch Gynecol Obstet. 2005;271(3):222-6.

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