

Research Article

"Lupus And Anti-Dsdna: Does Anti-Dsdna Level Correlate With Disease Activity? - A Case Report."

Dharankumar P.^{1*}, Supriya Uppula², Sankha Gayan³, R.P. Saini⁴

^{1*}Junior resident, Department of General Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi.

²Senior resident, Department of Neurology, AIIMS, New Delhi.

³Senior resident, Department of General Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi.

⁴Professor of Medicine, Department of General Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi.

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ABSTRACT

Background: Systemic lupus erythematosus is a chronic autoimmune disease that mostly affects women. Approximately 50% of lupus patients experience lupus nephritis. In about 2% of cases, immune thrombocytopenia can develop into systemic lupus. High anti-dsDNA levels and low complement levels often mark disease activity. Anti-dsDNA levels are important in disease pathogenesis and correlate with disease activity. We are reporting a case of anti-dsDNA-negative lupus nephritis.

Case report: A 26-year-old female presented with complaints of bilateral lower limb swelling and facial puffiness for a month. She was evaluated for thrombocytopenia around 6 months back and was labeled as a case of Immune thrombocytopenia she was not on any steroid therapy at the time of presentation with us. She was evaluated for the current complaints and a provisional diagnosis of nephrotic syndrome with suspicion of lupus nephritis as the primary pathology was made. Renal biopsy was done after building up her platelets and her biopsy revealed stage 5 lupus nephritis. However, her immunological profile showed a negative anti-dsDNA. She was started on mycophenolate mofetil (MMF) along with steroids, hydroxychloroquine, and Tacrolimus. Following drug therapy there was a significant reduction in proteinuria and remission was achieved.

Conclusion: Anti-dsDNA titers are strongly associated with systemic lupus erythematosus disease activity, particularly in lupus nephritis. Managing lupus nephritis typically involves immunosuppressive medications, which can have adverse effects on reproductive health. Our case report examines the role of anti-dsDNA titers in lupus and guides in managing lupus nephritis in women of reproductive age.

Keywords: Lupus Nephritis, Anti-Dsdna Negative, Immune Thrombocytopenia, Stage 5 Lupus Nephritis, MMF.

BACKGROUND

Systemic lupus erythematosus, as the name suggests, is a chronic multisystem disease of autoimmune etiology predominantly seen in women. Around 50% of patients with lupus have kidney involvement in the form of lupus nephritis. Lupus has a varied presentation, ranging from isolated skin to full-blown multisystemic involvement. Around 2% of cases of immune thrombocytopenia can progress to systemic lupus. Usually, disease activity is characterized by high anti-dsDNA levels and a low complement level. We are reporting a case of a young girl who was diagnosed as a case of primary Immune

Thrombocytopenia which turned out to be a case of lupus nephritis with anti-dsDNA being negative.

Case Report

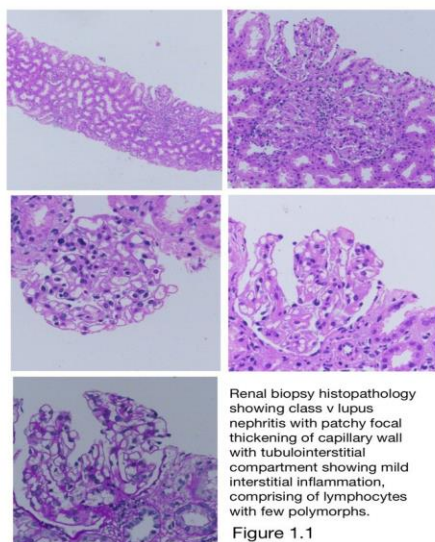
A 26-year-old female presented with complaints of bilateral lower limb swelling and facial puffiness for a month. She was evaluated for thrombocytopenia around 6 months back and was labeled as a case of Immune thrombocytopenia, she was not on any steroid therapy at the time of presentation with us. She was evaluated for the current complaints and her reports showed the following (table 1.1). Based on the findings, a provisional diagnosis of nephrotic syndrome with suspicion of lupus nephritis as the primary pathology was made.

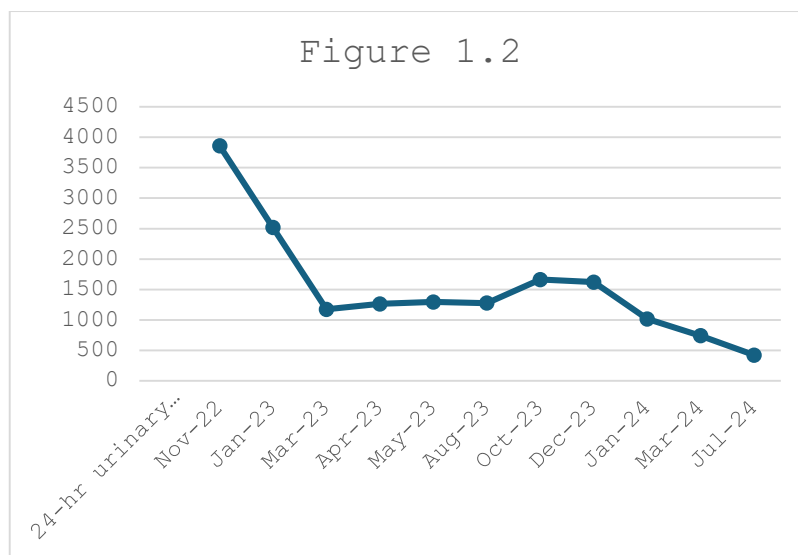
Table 1.1

INVESTIGATION	REPORT
1. 24-hour urinary protein	3.6 grams/24 hours
2. Anti-nuclear antibody	POSITIVE-Titre value 1:320 (nucleus homogenous)
3. Anti DsDNA	NEGATIVE
4. Thyroid function test	TSH – 4.6 (0.5-4.5 mIU/l)
5. C3 and C4 levels	54.6 mg/dl and 7.42 mg/dl respectively. (LOW)
6. lipid profile	Cholesterol – 429 mg/dl Triglyceride – 838 mg/dl HDL- 28.60 mg/dl VLDL- 167.60 mg/dl LDL- 232.80 mg/dl
7. urea and creatine	16 mg/dl and 0.9 mg/dl respectively.
8. complete blood count	Hb-9.5 g/dl MCV-79; TLC- 4200/mm ³ ; PLT- 57,000/mm ³ .
9. Ultrasound whole abdomen	No organomegaly; both kidneys are of normal size.

Hb-haemoglobin; MCV-mean corpuscular volume; TLC-total leucocyte count; PLT-platelet count; TSH-thyroid stimulating hormone; HDL-high density lipoprotein; VLDL-very low-density lipoprotein; LDL – low-density lipoprotein. Owing to her thrombocytopenia it posed a challenge to obtain a renal biopsy of the patient which we tackled by giving her steroids, single donor platelet (SDP), and intra-venous immunoglobulin (IVIG). Successfully renal biopsy was done without any complications and it showed stage 5 lupus nephritis (figure 1.1).

Considering the stage of nephritis, severity of proteinuria, and age, we started the patient on Mycophenolate mofetil and oral steroids. Following therapy, considerable response to therapy was seen but even with treatment we could obtain only partial remission at 1 year hence we added tacrolimus for the patients, and within 6 months of starting tacrolimus, the patient went into complete remission. Figure 1.2 shows the drop in proteinuria following therapy.





DISCUSSION

The challenge that we faced while managing this patient was the presence of moderate to severe thrombocytopenia which was a hindering factor for doing a renal biopsy which was overcome by transfusing SDP. We also assumed that this thrombocytopenia was related to autoimmunity hence we tackled it with steroids and IVIG. Anti-ds-DNA has been attributed to disease activity in patients of lupus and there has been strong attribution that anti-ds-DNA with lupus nephritis pathogenesis. Line probe and ELISA are two methods mainly used in detecting anti-ds-DNA. In our case, anti-ds-DNA was negative in both testing methods, but our case was active lupus. The rest of the extractable nuclear antigen profile turned out to be negative. Usually, there is no specific timeline for when we should expect remission.

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We planned our management aggressively and within 2 years our patient went into remission with the use of MMF and TACROLIMUS. Therefore, our case report also guides the management of lupus nephritis in women of reproductive age.

CONCLUSION

Anti-dsDNA titers strongly co-relate with systemic lupus erythematosus disease activity and have a strong role in the pathogenesis of lupus nephritis. Management of lupus nephritis usually consists of immunosuppression and these immunosuppressive medications have adverse effects on reproductive health. Our case report questions anti-dsDNA titers' role in lupus and guides the management of lupus nephritis in women of reproductive age group.

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Availability of Data and Materials

The data supporting the findings of the article is available within the article.

Declaration and Consent for Publication

Written consent for the publication of research data has been obtained from the concerned patient.

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