

## A case of systemic methimazole-induced systemic lupus nephritis

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**Introduction:** Drug induced lupus erythematosus (DILE) is a rare variant of systemic lupus erythematosus(SLE). Here, we describe a case of SLE in a hyperthyroid patient that began after initiating methimazole with biopsy-proven proliferative lupus nephritis.

**Case:** A 33-year-old woman presented with malar rash, general weakness and arthralgia for 1 months. She had diagnosed with congestive heart failure and Grave's disease 2 months ago with a decreased thyroid stimulating hormone level (0.02  $\mu$ IU/mL) and increased free T4 level (2.88 ng/dL). She was started on methimazole 10mg/day. Two weeks after the initiation of methimazole, malar rash, general weakness, arthralgia and fever developed, and she visited rheumatology clinic. Laboratory tests revealed hemolytic anemia (8.7 mg/dL, positive for direct coombs test), proteinuria (spot urine protein/creatinine ratio 2231 mg/g creatinine), hypocomplementemia, positivity for antinuclear antibodies (1:640, speckled pattern), anti-double stranded DNA antibodies (40.8 IU/mL), anti-Smith antibody (428.0 U/mL), anti-ribonucleoprotein antibody (39.0 U/mL) and anti-histone antibody (5.1 unit). Renal biopsy was performed for the diagnosis of proteinuria. Massive mesangial and subendothelial deposits were identified (Figure 1A) forming focal wire-loop patterns (Figure 1B). Immunofluorescence staining showed diffuse granular peripheral and/or mesangial staining of IgG, IgM, IgA, C3, C1q and C4 (Figure 1C, 1D). Given the above findings, the patient was diagnosed with SLE with diffuse proliferative lupus nephritis (class IV). Methimazole was discontinued with the administration of 60mg/day prednisolone, 2g/day mycophenolate mofetil and 200mg/day hydroxychloroquine. Fever, malar rash and arthralgia relieved rapidly after steroid therapy, and the patient is currently under observation at outpatient clinic.

**Conclusion:** We have reported a case diagnosed with SLE with lupus triggered by methimazole. Clinicians should consider both DILE and SLE as differential diagnoses in patients who exposed methimazole, and should be aware to correctly differentiate DILI from drug-induced flare of preexisting SLE.

