A HEADACHE BEYOND THE BRAIN: CEREBRAL VENOUS SINUS THROMBOSIS REVEALING IgA NEPHROPATHY

Wong Jze Wei, Christopher Thiam Seong Lim

Nephrology Unit, Department of Medicine, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia

Correspondence:
Wong Jze Wei (rainewong1383@gmail.com)
Department of Medicine
Hospital Sultan Abdul Aziz Shah

CASE PRESENTATION

A 49-year-old gentleman, ex-smoker with no known medical illness, presented with 2-week history of thunderclap headache (sudden onset, occipital and right-sided, associated with nausea and photophobia), frothy urine, and pedal oedema. On examination, he was alert and hemodynamically stable with unremarkable systemic findings.

INVESTIGATIONS

Blood tests revealed severe hypoalbuminemia (13 g/L) with nephrotic-range proteinuria (8.73 g/day) and microscopic haematuria (RBC 2+), alongside hypercholesterolemia (12.8 mmol/L). Renal function was preserved (creatinine 85 µmol/L, eGFR >90 mL/min/1.73 m^2). Immunology showed : ANA and ANCA negative, normal C3 and C4, with weakly positive lupus anticoagulant and negative anti-PLA_2R. Brain MRI revealed cerebral venous sinus thrombosis. Renal ultrasound showed normal-sized kidneys.

DIFFERENTIAL DIAGNOSIS

1. Membranous nephropathy (primary or secondary) with hypercoagulable state
2. IgA nephropathy with thrombotic complications
3. Lupus nephritis with antiphospholipid syndrome

RENAL BIOPSY FINDINGS

A renal biopsy was performed on 29th September 2025.

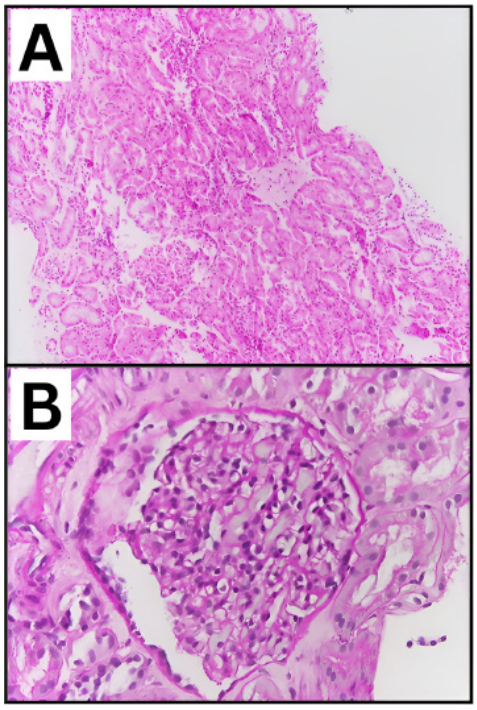

Figure 1: *A) One (1) globally sclerosed glomerulus seen, in the background of back-to- back tubules (H&E, original magnification x100). B) There is patchy and mild mesangial hypercellularity seen. Otherwise the capillary loops are delicate with no active proliferative lesion (PAS, original magnification x400).*

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY
JCTN (2026) Volume 1: Article no: 1

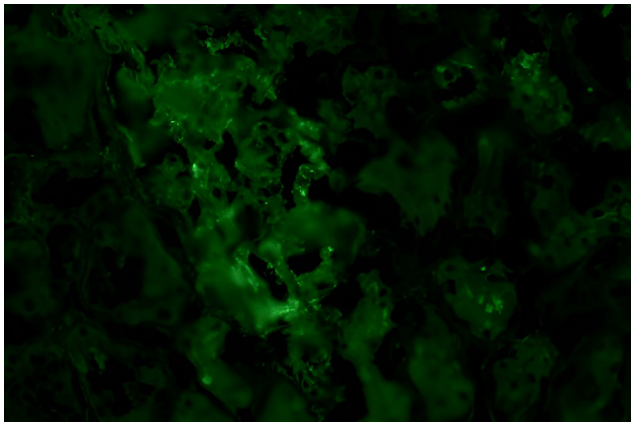

Figure 1: *Immunofluorescence studies show IgA small foci of mesangial granular positivity (2+) (original magnification x400)*

FINAL DIAGNOSIS

IgA Nephropathy (Oxford Classification M0 E0 S1 T0 C0) complicated by Cerebral Venous Sinus Thrombosis

LEARNING POINTS

1. Although IgA nephropathy typically presents with synpharyngitic haematuria or mild urinary abnormalities, the development of nephrotic-range proteinuria suggests more aggressive pathology and a poorer prognosis. In less common situations, as seen in this case, it may even be associated with severe extra-renal complications such as cerebral venous sinus thrombosis.
2. Patients with nephrotic syndrome are at increased risk of thrombotic events due to urinary loss of anticoagulant proteins (antithrombin III, protein C and S). The weakly positive lupus anticoagulant in this case is likely a transient finding related to the hypercoagulable state of nephrotic syndrome, rather than true antiphospholipid syndrome.
3. Negative serology should not deter renal biopsy when clinical presentation suggests glomerulonephritis. Histology remains the diagnostic gold standard
4. Thunderclap headache in the setting of nephrotic syndrome should raise suspicion for cerebral venous sinus thrombosis. Prompt neuroimaging with MRI and magnetic resonance venography is crucial for diagnosis and initiation of anticoagulation therapy.