IMAGE OF INTEREST

Korean J Intern Med 2025;40:339-340
https://doi.org/10.3904/kjim.2024.278

Renal recovery from membranous lupus nephritis with antineutrophil cytoplasmic antibody-associated glomerulonephritis with belimumab

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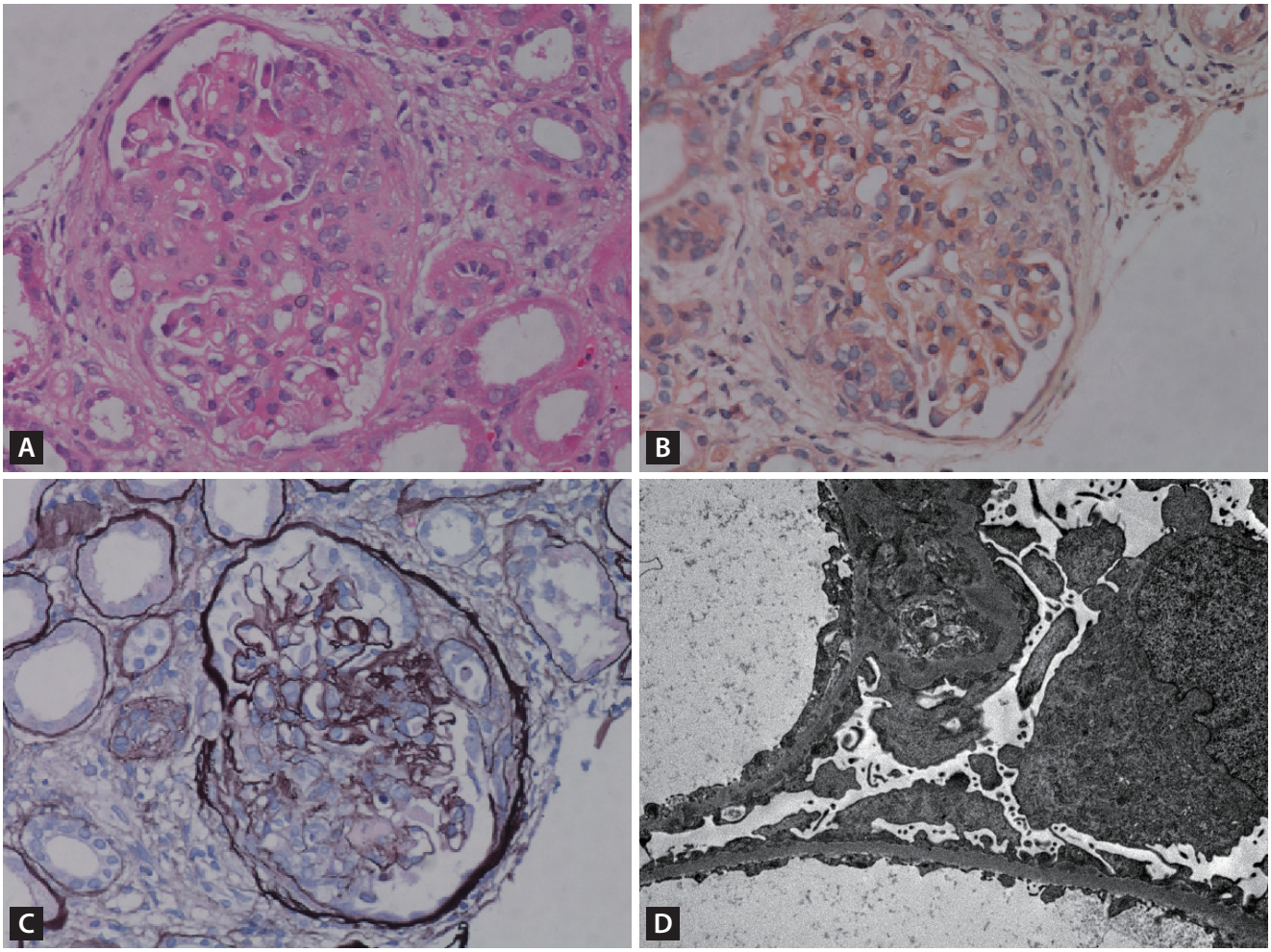

Figure 1. Kidney biopsy findings. (A-C) Light microscopy revealed mild mesangial proliferation, moderate thickening of the glomerular basement membrane, rupture of the glomerular basement membrane, and fibro-cellular crescents. There was little or no endocapillary hypercellularity. (A) H&E × 400. (B) Masson × 400. (C) PASM × 400. (D) Electron microscopy revealed numerous subepithelial deposits of electron density. There were no subendothelial deposits present (× 10,000).

pISSN 1226-3303
eISSN 2005-6648
http://www.kjim.org

A 35-year-old woman presented with fatigue was admitted. Laboratory results revealed nephrotic syndrome, hematuria, acute kidney injury, and cytopenia. Further testing showed a positive antinuclear antibody (ANA) with a titer of 1:320, elevated anti-dsDNA at 108 RU/mL, and myeloperoxidase-antineutrophil cytoplasmic antibody (MPO-ANCA) at 154.0 RU/mL. Serum complement levels were low.

Renal biopsy was performed and showed 60% of glomeruli with glomerular basement membrane ruptures and crescent formation. The remaining glomeruli exhibited segmental mesangial cell proliferation and moderate basement membrane thickening. Direct immunofluorescence revealed diffuse global granular staining for IgG, IgA, IgM, and C3 along glomerular capillary walls. Electron microscopy identified subepithelial electron-dense deposits, with no significant subendothelial deposits (Fig. 1). The biopsy findings suggested overlapping features of lupus nephritis (LN) and ANCA-associated glomerulonephritis.

Initial treatment with intravenous methylprednisolone and cyclophosphamide yielded inadequate renal improvement, and the patient requested a prompt reduction in steroid dosage. This prompted the addition of belimumab in line with the latest KDIGO guidelines, alongside continued prednisolone, mycophenolate mofetil, and hydroxychloroquine. The patient achieved a partial renal response after 3 months of treatment, and this partial response has been maintained up to now, with 6 months of follow-up. The steroid dosage was reduced to 4 mg daily, with no significant changes in appearance or weight. Her 24-hour urine protein decreased to 0.9 g/d, serum creatinine normalized to 0.9 mg/dL, and ANCA, dsDNA, and ANA tests were negative, with serum complement levels returning to normal.

The coexistence of LN and ANCA-associated glomerulonephritis is rare, with unclear underlying causes potentially involving shared immune pathways or molecular mechanisms, and no established treatment protocols [1,2]. This case underscores the need to consider overlapping pathologies when conventional presentations do not fully explain clinical or histopathological findings and highlights the potential of tailored therapies like belimumab in managing complex cases.

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Received : August 14, 2024
Revised : August 28, 2024
Accepted : September 23, 2024

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Wenfeng Wang: writing - original draft; Zishan Lin: writing - review & editing, funding acquisition; Bingjing Jiang: writing - original draft; Yanfang Xu: writing - review & editing, funding acquisition

Conflicts of interest
The authors disclose no conflicts.

Funding
This work was supported by the National Natural Science Foundation of China (No.82070720 and No. 82300803). The funders had no role in study design, data collection and analysis, interpretation of the data, decision to publish, or preparation of the manuscript.

Ethical approval
This study was performed following the Helsinki Declaration, and approved by the ethics committee of the First Affiliated Hospital, Fujian Medical University. Written informed consent was obtained from the patient.

Consent for publication
Informed written consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor of this journal.

https://doi.org/10.3904/kjim.2024.278