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Dense Deposit Disease in an Elderly Patient: Report of a Case

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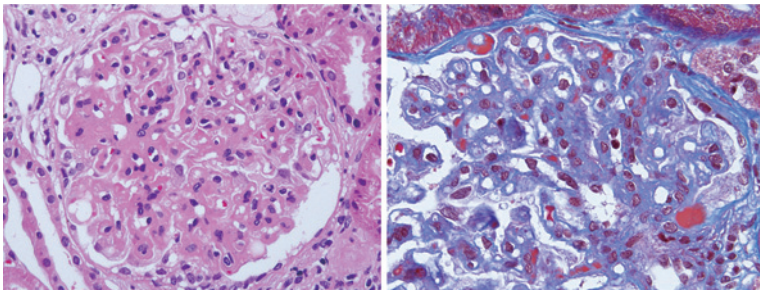

Fig. 1

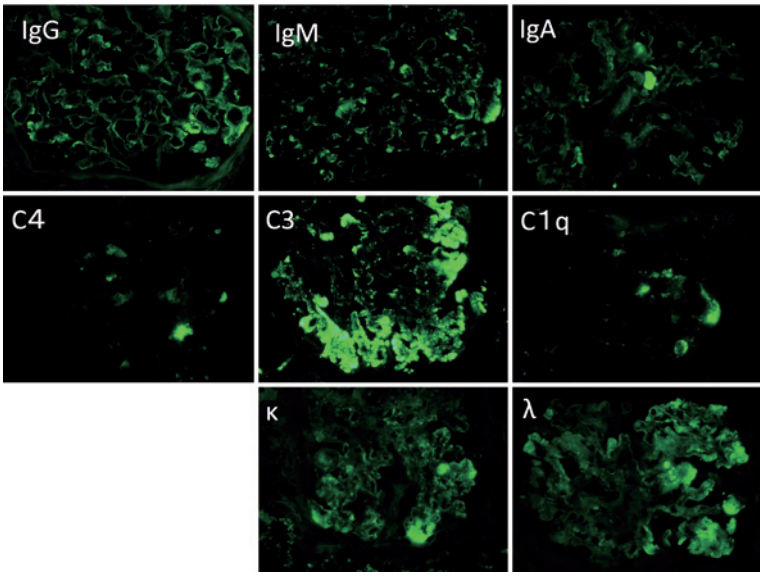

Fig. 2

Dense deposit disease (DDD) is a form of glomerulonephritis characterized by abnormality of the complement alternative pathway which tends to occur in children[1]. Diagnosis is established by verification with electron microscopy of a continuous intramembranous dense deposit[2]. This report documents an unusual case of DDD found incidentally through a health screening in an elderly patient.

Case

A 51-year-old woman was referred to our hospital because of proteinuria and microscopic hemturia that had been found at a health screening several years earlier. The complement system was found to be normal on

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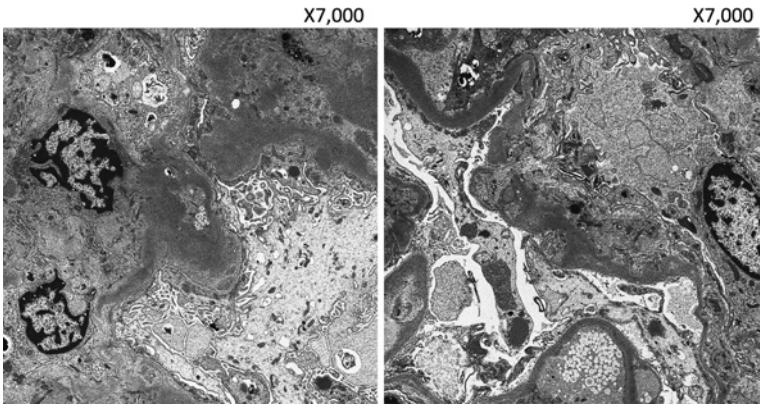

Fig. 3

admission. No significant abnormality of autoantibodies was found.

Renal Pathology

Renal biopsy revealed segmental mesangial proliferative lesions characterized by an irregular double contour of the glomerular basement membrane and the formation of glomerular spikes (**Fig. 1**). Segmental sclerosis was also seen in some glomeruli.

Interstitial foamy epithelial cells were prominent in renal tubules. No noticeable change in blood vessels was found except for the sclerotic lesions noted.

Immunofluorescence study disclosed C3 deposition in the mesangial areas and the capillary walls in glomeruli, but no other immunoglobulin or complement deposits were evident (**Fig. 2**).

Electron microscopy revealed irregular electron-dense deposits in the mesangial areas, glomerular basement membrane in glomeruli, and Bowman's capsule. A diagnosis of DDD was made on the basis of these findings, although the condition was serologically atypical (**Fig. 3**).

Conflict of Interest: The authors declare no conflict of interest.

Fig. 1 Thickening of the glomerular capillary walls is conspicuous on hematoxylin and eosin-stained sections. There is modest inflammatory cell infiltration in the glomeruli. Red immune deposits are seen in the thickened capillary walls with Masson's stain.

Fig. 2 Immunofluorescence study shows deposition of C3 mainly on mesangial areas and capillary walls in glomeruli. Sparse deposits of C1q, C4, and immunoglobins G, M, and A are also seen. Both κ and λ chains are demonstrable, coinciding with the sparse immunoglobulin deposits. These findings are compatible with DDD.

Fig. 3 Electron microscopy shows prominent intramembranous electron-dense deposits in glomeruli compatible with DDD.

References

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