

Two in one: Concomitant membranous nephropathy and vasculitic glomerulonephritis in the same patient – A report of two cases

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Introduction

1. The concomitant occurrence of a vasculitic glomerulonephritis and membranous nephropathy in the same patient is unusual.
2. It is found in just fewer than 5% of cases of membranous nephropathy and showed the presence of Anti PR3 antibodies in most of the cases in a study by W. Y. Tse et al
3. Tse et al reported 10 cases of Membranous Nephropathy superimposed with vasculitic glomerulonephritis, and four of them were ANCA-positive
4. At present, any association between MN and ANCA associated GN is unclear
5. Matsumoto et al. reported an interesting hypothesis that MPO demonstrated in epimembranous deposits is highly cationic. Because bactericidal/permeability increasing protein (BPI), elastase, and lysozyme are all cationic, ANCAs for these minor antigens might be related to the formation of immune complexes
6. Nasr et al. suggested that the concurrent of MGN and ANCA-GN may just be by chance, because they occur together too infrequently to be related pathologically
7. Little is known about the clinical course, optimal treatment and renal outcome of patients with this unusual combination of nephritis
8. We report two cases of this unusual combination who were successfully treated and showed marked renal recovery

Clinical and treatment details of the patients

S.No	Age/Sex	Mode of presentation	BP at presentation	Serum creatinine at presentation	Serum creatinine at the time of biopsy (Day 10)	24 hour Urine protein/creatinine	Serum Albumin	Anti MPO Titres / Anti GBM
1	58/M	RPRF	160/100 mm Hg	3.5 mg/dl	10.2 mg/dl	3.9 gram/ 1.1 gram	4.1	>200/ Negative
2	51/F	RPRF	150/100 mm Hg	1.5 mg/dl	9.6 mg/dl	7.8 gram/730 mg	2.5	>200/ Negative

Renal biopsy	No. of Glomeruli	Globally sclerosed	Light microscopy	IF findings	Induction	Maintenance	Current creatinine
1	11	2	8 glomeruli showed Circumferential cellular crescent formation Diffuse ATN, many tubules show intraluminal RBC casts	IgG (2+) with membranous pattern PLA2R not done	Methylprednisolone pulse & plasmapheresis	Prednisolone & oral cyclophosphomide	1.97 mg/dl and off dialysis
2	10	2	5 glomeruli showed fibrous crescents and 2 glomeruli showed cellular crescents and one showed fibrocellular crescent Diffuse ATN	IgG (3-4+) with membranous pattern PLA2R - Negative	Methylprednisolone pulse & two doses of Rituximab	Prednisolone & Azathioprine	1.68 mg/dl and off dialysis

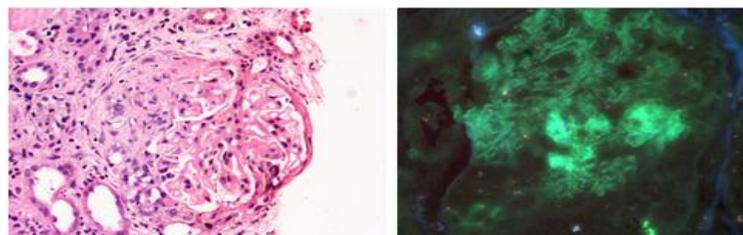


Fig 1: LM and IF features of first patient

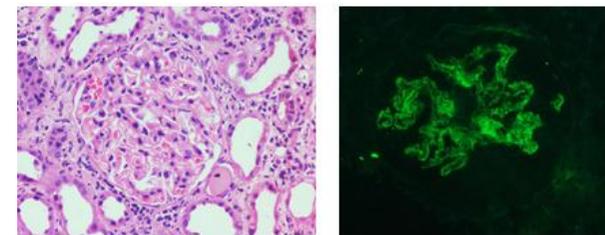


Fig 2: LM and IF features of second patient

References: 1. Association of vasculitic glomerulonephritis with membranous nephropathy: a report of 10 cases by W. Y. Tse1, *Nephrol Dial Transplant* (1997) 12: 1017–1027
 2. S. H. Nasr, S. M. Said, A. M. Valeri et al., "Membranous glomerulonephritis with ANCA-associated necrotizing and crescentic glomerulonephritis," *Clinical Journal of the American Society of Nephrology*, vol. 4, no. 2, pp. 299–308, 2009
 3. K. Matsumoto, H. Honda, T. Shibata et al., "MPO-ANCA crescentic glomerulonephritis complicated by membranous nephropathy: MPO demonstrated in epimembranous deposits." *NDT Plus*. vol. 2. no. 6. pp. 461–465. 2009

Conclusion: Membranous nephropathy complicated by vasculitic glomerulonephritis appears to have a more aggressive clinical course compared to membranous nephropathy alone and to be treated at the earliest. A repeat renal biopsy should be considered in those patients with membranous nephropathy with an acute or an accelerated decline in renal function as this may indicate a superimposed vasculitic transformation.

