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The Anti-nonglycan MPO-ANCA was Associated with Prognosis in Crescentic Lupus Nephritis

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Objectives : Myeloperoxidase (MPO) is a common target antigen of crescentic glomerulonephritis and is recognized by one-third of the patients with crescentic lupus nephritis (LN). Previous study showed that antibodies against aberrant glycosylated MPO could be detected in the majority of patients with anti-GBM disease who even without MPO-ANCA, which indicated aberrant glycosylated MPO exposing novel antigenicity.

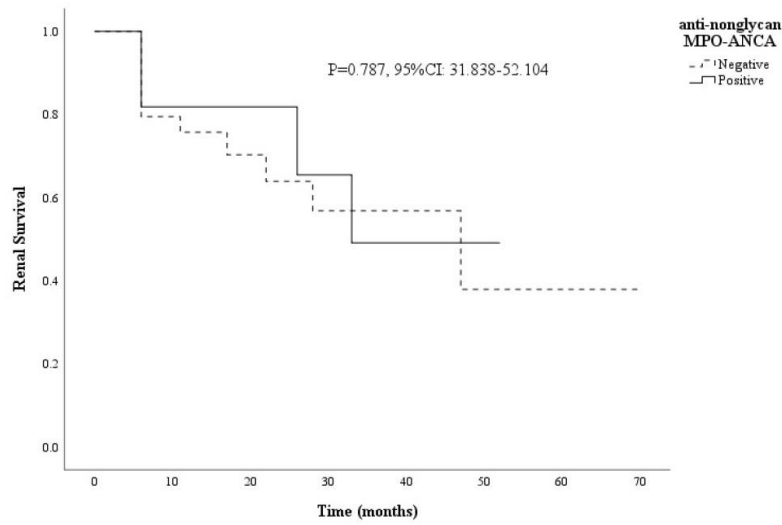
Methods : Clinical and renal histopathological data of 19 patients with renal biopsy-proven crescentic LN and age and sex matched 33 patients with renal biopsy-proven LN without crescentic nephritis were collected. PNGase F was used to cut all 5 N-linked glycosylation sites on MPO to prepare nonglycan MPO-ANCA. The prevalence of anti-nonglycan MPO-ANCA was screened by ELISA. Associations with clinical features, pathological data, and laboratory findings were investigated.

Results : The prevalence of anti-nonglycan MPO-ANCA was detected in 21.2% (11/52) patients with active LN, which were higher than those of in normal controls (2/20, 10%). Furthermore, the prevalence of anti-nonglycan MPO-ANCA in patients with crescentic LN was significantly higher than those in non-crescentic LN (9/19, 47.4% vs 2/33, 6.1%, $P=0.001$). Among 9 crescentic LN patients with positive anti-nonglycan MPO-ANCA, among which 5 were only positive for anti-nonglycan MPO-ANCA (5/9, 55.6%), and the remaining 4 (4/9, 44.4%) were both positive for anti-nonglycan MPO-ANCA and MPO-ANCA.

Conclusions : Nonglycan MPO-ANCA was prevalent in crescentic LN and was associated with worse renal prognosis.

fig1.jpg

Figure 1. Kaplan-Meier survival analysis between LN patients with and without anti-nonglycan MPO-ANCA



Number at risk

Negative	41	23	12	8	5	2	1	1
Positive	11	9	5	4	2	1	0	0

fig1.jpg

Supplementary Figure 1. Enrollment of crescentic LN patients at Peking University First Hospital and the design of the study

