investigate whether circulating HMGB1 levels is associated with disease activity in AAV.

Methods.– Plasma samples from 74 patients with AAV in active stage and 46 patients with AAV in remission were collected. The plasma levels of HMGB1 were determined by ELISA. Associations between plasma levels of HMGB1 with clinical and pathological parameters were analyzed.

Results.– Plasma levels of HMGB1 in active AAV patients were significantly higher than those in normal controls (6.11 (3.25–12.79) ng/ml vs. 1.12 (0.53–3.9) ng/ml, P < 0.001) and AAV patients in remission (6.11 (3.25–12.79) ng/ml vs. 3.15 (2.30–4.10) ng/ml, P < 0.001). Among the patients with active AAV, plasma levels of HMGB1 in PR3-ANCA positive patients were significantly higher than those in MPO-ANCA positive patients (16.36 (4.86–27.36) ng/ml vs. 5.96 (3.13–11.83) ng/ml, P = 0.042). Correlation analysis showed that plasma levels of HMGB1 correlated with initial Scr (r = 0.275, P = 0.018), eGFR (r = −0.277, P = 0.017), the Birmingham Vasculitis Activity Score (BVAS) (r = 0.308, P = 0.008) and C-reactive protein (CRP) (r = 0.309, P = 0.008). Among the patients with MPO-ANCA, those within the first quartile of plasma HMGB1 levels had significantly lower level of MPO-ANCA than those within the other three quartile.

Conclusion.– Circulating HMGB1 level might reflect disease activity and renal involvement of ANCA-associated vasculitis.

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P179

Pentraxin-3 and soluble tumor necrosis factor-like weak inducer of apoptosis (s-Tweak) in anti-neutrophil antibody associated vasculitis (AAV)

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Introduction.– The novel inflammatory mediators PTX3 and s-Tweak have recently gained a lot of attention in the field of autoimmune disease, although little studied in AAV. PTX3 is a CRP like protein synthesized by vascular endothelial cells and macrophages amongst others. It is believed to more closely reflect local tissue inflammatory activity than CRP which is synthesized in the liver. TWEAK is a recently synthesized by vascular endothelial cells and macrophages amongst others. It is believed to more closely reflect local tissue inflammatory activity but do not support an important role for circulating s-TWEAK.

Results.– PTX3 was significantly elevated at baseline compared to follow-up (4.66 ng/ml vs 1.75 ng/ml, P = 0.0003) and correlated to BVAS at baseline (rho 0.43, P = 0.006) but not to CRP or creatinine. Levels of s-TWEAK on the other hand remained unchanged throughout the study and compared to healthy controls.

Conclusion.– PTX3 correlated well with disease activity independently of CRP and may be a biomarker worth exploring in AAV. s-TWEAK was not elevated in active AAV compared to remission or in healthy controls. These results do not exclude that TWEAK plays a role in the pathogenesis of AAV by tissue expression but do not support an important role for circulating s-TWEAK.

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P180

Epitope analysis of anti-myeloperoxidase antibodies in propylthiouracil-induced ANCA-associated vasculitis

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Introduction.– Increasing evidences have suggested the linear epitopes of antineutrophil cytoplasmic antibody (ANCA) directed to myeloperoxidase (MPO) might provide clues to the pathogenesis of propylthiouracil (PTU)-induced ANCA-associated vasculitis (AAV). The current study mapped epitopes of MPO-ANCA in sera from patients with PTU-induced MPO-ANCA (with or without vasculitis) and primary AAV, aiming to analyzing certain epitopes associated with the development of PTU-induced AAV.

Methods.– Six recombinant linear fragments, covering the whole length amino acid sequence of a single chain of MPO, were produced from E. coli. Sera from 17 patients with PTU-induced AAV, 34 patients with PTU-induced MPO-ANCA but without clinical evidence of vasculitis and 64 patients with primary AAV were collected at presentation. Twelve of the 17 patients with PTU-induced AAV also had sera at remission. The epotope specificities were detected by enzyme-linked immunosorbent assay using the recombinant fragments as solid phase ligands.

Results.– Sera of PTU-induced AAV patients had a significantly higher reactivity to P fragment compared with primary AAV patients (52.9% vs. 14.1%, P < 0.001). Among the 12 PTU-induced AAV patients with sequential samples, the number of fragments recognized in remission was significantly less than that in initial onset (2.12 ± 1.90 vs. 0.42 ± 0.90, P < 0.001). Moreover, in patients with PTU-induced AAV, sera in active stage had a significantly higher binding rate to P fragment than in remission (52.9% vs 16.7%, P = 0.046).

Conclusion.– Linear epitopes of MPO molecule might be associated more closely with the development of PTU-induced AAV. In particular, the P fragment might be an important epitope in PTU-induced AAV.

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P181

IL-10 producing regulatory B-cells are diminished in ANCA-associated vasculitis

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Introduction.– IL-10 producing regulatory B-cells are diminished in ANCA-associated vasculitis

Methods.– A total of 40 consecutive patients (20 men, 20 women, median age 58 years) with active AAV (33 new and seven with relapsing disease) were included in the study and followed longitudinally. Twenty-four patients were diagnosed with GPA, 15 with MPA and one with CSS. Disease activity was assessed using BVAS at baseline and at remission in 6 month. Levels of PTX3 and s-TWEAK were measured with an ELISA method together with CRP and creatinine. s-TWEAK was also measured in 20 healthy controls.