

Antineutrophil cytoplasmic antibodies: appropriate use and interpretation

It was with much interest that we read the letter of Novikov *et al*¹ on testing for antineutrophil cytoplasmic antibodies (ANCA) in patients with ANCA-associated vasculitides (AAV) and other diseases. In their letter, the authors (1) share their experience with direct testing for proteinase-3 (PR3) ANCA and myeloperoxidase (MPO) ANCA and (2) raise some important issues regarding interpretation of ANCA test results.

Novikov *et al*¹ abandoned indirect immunofluorescence (IIF) for ANCA screening more than 10 years ago and since then have been directly testing for PR3-ANCA and MPO-ANCA by immunoassay. They identified antibodies in 96.9% of patients with microscopic polyangiitis (MPA), in 72.7% of patients with granulomatosis with polyangiitis (GPA) and in 92.2% of patients with renal GPA. These results are in line with the results obtained in a recent multicentre study by the European Vasculitis Study Group² and confirm that patients with GPA with localised (limited) disease can be ANCA negative.³ More importantly, the experience of Novikov *et al*¹ validates that a strategy based on the use of antigen-specific immunoassays instead of IIF is feasible and dependable for ANCA detection in AAV. This supports a revision of the international consensus on ANCA testing in AAV, in which antigen-specific immunoassays are recommended to screen for ANCA in AAV. Novikov *et al*, however, do not provide data on patients that were not diagnosed with AAV, which of course is essential with respect to the correct judgement of the proposed testing procedure. Also, it would be of interest to have information on the type of test that was used.

Novikov *et al*¹ also touched on some essential points regarding ANCA testing and interpretation, which we endorse. First, ANCA testing should be performed in the right clinical context, that is, a high pretest probability for AAV. Gating policies for requesting ANCA have been proposed.⁴ Second, a negative ANCA test result does not exclude AAV (eg, ANCA-negative limited GPA, see above). Third, ANCA help with the diagnostic workup of AAV and should be interpreted together with clinical and histological data. Fourth, one should recognise that ANCA can be found in conditions other than AAV. For example, infections such as endocarditis can induce PR3-ANCA and MPO-ANCA and can mimic ANCA-related glomerulonephritis.⁵ Therefore, infection should be excluded before a diagnosis of AAV is established. Also drugs, such as hydralazine, propylthiouracil and levamisole-adulterated cocaine, can induce secondary forms of AAV.⁶

Based on associations with genetic background and epidemiology, it has been suggested that ANCA specificity (PR3-ANCA vs MPO-ANCA) could be better than clinicopathological diagnosis (GPA, MPA) for defining homogeneous groups of patients.^{7–8} We agree with Novikov *et al*¹ that this discussion cannot be finalised yet.

In some gastrointestinal disorders such as ulcerative colitis, autoimmune hepatitis and primary sclerosing cholangitis, atypical ANCA can be detected by IIF.^{9–10} As the target antigen is not known, specific immunoassays are not available. It has recently been shown that with a sensitive chemiluminescence assay, PR3-ANCA can be found in patients with ulcerative colitis¹¹ and primary sclerosing cholangitis.¹² It is therefore important to distinguish ANCA requests in the context of AAV from requests in the context of gastrointestinal disease.

In conclusion, Novikov *et al*¹ addressed some important points related to correct ANCA use and interpretation.

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