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## Anti-Pentraxin 3 autoantibodies: A new maker of ANCA-associated Vasculitis

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Antineutrophil cytoplasmic antibodies (ANCA)-associated vasculitis (AAV) are a group of human life-threatening diseases characterized by multiorgan involvement. AAV diagnosis relies on the histological identification of small vessel vasculitis in an affected organ and on the identification of ANCA directed to myeloperoxidase (MPO) or proteinase 3 (PR3). ANCA detection allows a rapid diagnosis and the initiation of immunosuppressive treatments. However, up to 15% of affected patients are ANCA negatives, which frequently delays the treatment initiation.

Pentraxin 3 (PTX3), such as MPO and PR3, is stored in human neutrophil granules and is expressed on apoptotic neutrophil surface. We therefore investigated the presence of anti-PTX3 autoantibodies (aAbs) in the sera of AAV patients, to evaluate the potential interest of this novel biological marker in the diagnosis of AAV.

Presence of anti-PTX3 autoantibodies was analyzed by a specific ELISA in sera from 150 AAV patients and in sera of 227 healthy subjects (HS). Using indirect immunofluorescence on human fixed neutrophils, we also analyzed the staining pattern associated with the presence of anti-PTX3 aAbs.

Anti-PTX3 aAbs were detected in 56 of 150 (37.3%) of the AAV patients (versus 12 of 227 (5.3%) of HS, p<0.001) and, interestingly, in 7 of 14 MPO and PR3 ANCA negative AAV patients. Moreover, by indirect immunofluorescence on fixed neutrophils, anti-PTX3 aAbs gave rise to a specific cytoplasmic fluorescence pattern distinct from the classical cytoplasmic (c-ANCA), perinuclear (p-ANCA), and atypical (a-ANCA) pattern. No association between anti-PTX3 aAb titers and disease activity was found.

Anti-PTX3 aAbs appear thus as a promising novel biomarker in the diagnosis of AAV, especially in patients without detectable MPO and PR3 ANCA.

## Biography

Jean-François Augusto is Associate Professor of Nephrology in Angers University Hospital, France. He has studied Innate Immunity and has completed his PhD from Angers University, France, in April 2015. He has expertise in Clinical Nephrology, including auto-immune and systemic diseases, and Critical Care Medicine. His main interest is the study of innate immunity and especially pattern recognition receptor biology and their implication in pathophysiology of systemic and auto-immune diseases.

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