Publication of the Month

EliA™ Excellence in Autoimmunity

July 07/08: Cardiolipin antibodies in SLE

Antiphospholipid antibodies are a family of autoantibodies directed to anionic phospholipids, phospholipid-binding proteins or a combination of both. In clinical practice, they are identified with tests for anticardiolipin IgG and IgM (aCL), anti-β2-glycoprotein I IgG and IgM and lupus anticoagulant (LA). The presence of antiphospholipid antibodies has been associated with antiphospholipid syndrome (APS), characterized by an increased risk of thrombosis as well as recurrent pregnancy loss. APS may occur in combination with other autoimmune disorders, most frequently in patients with systemic lupus erythematosus (SLE). APS is the most important cause of thrombosis and a major predictor of irreversible organ damage and death in patients with SLE.
Fluctuations in aCL titer have been reported in SLE patients, but their clinical significance and their relation to thrombosis are not completely understood. In the following study, the authors investigated the clinical association between thrombosis and persistently/transiently positive aCL in patients with SLE.

Martinez-Berriotxoa A, Ruiz-Irastorza G, Egurbide MV, Garmendia M, Erdozain JG, Villar I, Aguirre C
Transiently positive anticardiolipin antibodies and risk of thrombosis in patients with systemic lupus erythematosus
Lupus 2007; 16: 810-816

237 patients with SLE were classified in (A) 33 patients with positive LA, (B) 32 patients with negative LA and persistently positive aCL (≥ 20 GPL and/or MPL), (C) 42 patients with negative LA and transiently positive aCL and (D) 139 patients with negative LA and negative aCL. The risk for *arterial* thrombosis was increased in groups A and B, but not in group C when compared with group D. The risk for *venous* thrombosis was only increased in group A (LA positive). The risk for general thrombosis, both arterial and venous, in LA negative and transiently aCL-positive patients was not different from that in patients without any antiphospholipid antibodies. Patients in this group had lower levels of aCL than those with persistently positive antibodies. It would be interesting to see if these patients still would be positive when the new recommended cut-off of 40 GPL and/or MPL would have been used. Probably most patients from group C would not have been classified as APS patients at all.

In a recent retrospective study the authors investigated the prognostic impact of antiphospholipid antibodies in 56 patients with paediatric onset of SLE:

Descloux E, Durieu I, Cochat P, Vital Durand D, Ninet J, Fabien N, Cimaz R
Paediatric systemic lupus erythematosus: prognostic impact of antiphospholipid antiodies
Rheumatology 2008; 47: 183-187

Antiphospholipid antibodies were detected in 30 of 56 patients – 11 had only aCL, 3 had only LA and 16 had both. However, in 10 cases the positivity was only transient (positive once or several times, but negative 6-12 weeks later), in 15 cases it was intermittent (positive at least twice and confirmed after 6-12 weeks, with period(s) of negative detection) and only in 5 cases the antibodies were detected persistently (no period of negative detection). 31 thrombotic events occurred in 17 patients. 7 of these 17 patients had intermittent antiphospholipid antibodies, 4 had persistent antibodies and 3 had transient antibodies. Thrombosis was more frequent and occurred earlier if the antibodies were persistent. All recurrent thrombotic events occurred in antiphospholipid-positive patients. The risk of damage in antiphospholipid-positive patients was three times higher than in negative patients.

Antiphospholipid antibodies are risk factors for thrombosis in SLE patients and a marker for poor prognosis overall, particularly when they are persistent and of high titer.