ABSTRACT FORM ECAT SYMPOSIUM 15 – 16 SEPTEMBER 2022

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Title:

Follow-up of LA positive patients

Abstract:

Lupus anticoagulants (LACs) and other antiphospholipid antibodies are a heterogeneous group of autoantibodies that can interact with phospholipids, phospholipid-binding proteins or both. LACs are phospholipid-dependent inhibitors of the *in vitro* coagulation and a result of aPL binding to plasma proteins, mainly b2-glycoprotein, that have affinity for the negatively charged phospholipids. The most commonly detected aPLs are anticardiolipin (aCL) antibodies (IgG and IgM) and anti-β2-glycoprotein Ib (anti-β2GPIb) antibodies (IgG and IgM). Here, the term aPL includes LACs, aCL antibodies and anti-β2GPI antibodies.

Presence of aPL is associated with increased risk of thrombosis (venous and arterial) and/or obstetric complications. Furthermore, aPL play an important role in the diagnostic workup of autoimmune diseases. Therefore, aPL are frequently assessed in routine daily clinical practice in diagnostic workups for suspected autoimmune diseases or to test for underlying risk factors in patients with thrombosis or obstetric complications. However, data on incidence of aPL positivity and characteristics of patients with positive aPL are scarce.

In a retrospective single-centre study at the Erasmus MC we have investigated indications and outcomes of aPL testing in routine clinical practice and determined the prevalence of aPL positivity in a large cohort of patients (*Kempers, et al. Rheumatol Adv Pract. 2021*). In addition, we compared aPL positive patients with and without antiphospholipid syndrome (APS) concerning their clinical and aPL characteristics. For LACs measurement, the drVVT (screening reagent LA1 and LA2; Siemens, Munich Germany) and the APTT-lupus with Actin FSL and Actin FS (Siemens) on the Sysmex CS5100 (Sysmex, Singapore) were used.

During the study period (From July 2015 till April 2018), 16,847 single aPL tests were performed in 2,139 patients. Measurement of the complete aPL panel (defined as LACs measured with either dRVVT or APTT-lupus and measurement of aCL IgG/IgM and anti-β2 GPI IgG/IgM) at the first measurement was available in 44.8% of the patients in 53.8% of the patients at the second aPL measurement. 212 (9.9%) patients had one or more positive aPL tests, which could be confirmed in 43.9% with a second positive test. Most frequent indications for aPL testing were diagnostic workup/follow-up of autoimmune diseases (33.6%), thrombosis (21.4%) and obstetric complications (28%). Seventy-four patients (3.5% of all patients) fulfilled the criteria of APS, of whom 51% were newly diagnosed. Second positive aPL titres and titres of APS patients were significantly higher compared with positive aPL titres at the first measurement ($P < 0.05$). Patients with indications of arterial thrombosis and diagnostic workup/follow-up of autoimmune diseases had significantly higher levels of aCL IgG and anti-β2 glycoprotein I (β2GPI) IgG compared with patients with other indications.

In our study we identified characteristics of patients with positive aPL. The prevalence of one or more positive aPL test was 9.9% and APS was diagnosed in 3.5% of the patients. Patients with arterial thrombosis had significantly higher anti-β2GPI IgG and aCL IgG, which should be confirmed in future studies. Further improvement and awareness in aPL testing in routine clinical practice is necessary.