Background: Antiphospholipid antibodies (aPLs) and thrombotic/obstetric events are the characteristics of the antiphospholipid syndrome. The titers of aPL sometimes may decrease and become negative during the follow-up period. Whether the negativization being related with a lower risk of thrombotic events, allowing for withdrawal of anti-coagulant therapy is controversial. And the factors associated with each aPL negativization are still unknown.

Objectives: To explore the clinical and serological course of patients with positive aPLs, and the factors and therapeutic implications associated with aPL negativization.

Methods: Patients with a persistent positive aPL serology according to established criteria between 1997 and 2018 were included. The test of Lupus anticoagulant (LA), anti-cardiolipin antibody (aCL) and anti-β2-glycoprotein I (anti-β2GP1) were following the International Society on Thrombosis and Haemostasis guidelines. The patients were classified as aCL negativization if the following aPL tests became negative, on two or more occasions at least 12 weeks apart. Titer more than 400U/ml was defined as moderate to high titer for aCL and anti-β2GP1. For patients receiving warfarin, the results of LA were counted only when INR<1.5.

Results: The baseline characteristics of 93 patients were shown in Table 1. After a mean follow-up of 45.0 (45.0) months, the percentage of aPL negativization was 10.8% (9/83), 26.1% (18/69), 24.5% (13/53) for LA, aCL and anti-β2GP1 respectively (Figure 1). Patients with triple aPL positivity at baseline were associated with persistent positive serology for all the three aPLs Multivariate analysis confirmed that double positive of two methods (dVRRT and SCT) was the only independent protective factor for LA negativization (OR 18.2; 95%CI: 1.45-228; p=0.025, for SLE; OR 0.217; 95%CI: 0.053-0.888; p=0.034, for moderate to high titer of aCL; OR 0.198; 95%CI: 0.057-0.689; p=0.011, for number of baseline aPL positivity). Moderate to high titer of anti-β2GP1 and number of baseline aPL positivity were independently protective factors for anti-β2GP1 negativization (OR 1.45: 0.006-0.614; p=0.031). SLE, moderate to high titer of aCL and number of baseline aPL positivity were independently associated with aCL negativization (OR 18.2; 95%CI: 1.45-228; p=0.025, for SLE; OR 0.217; 95%CI: 0.053-0.888; p=0.034, for moderate to high titer of aCL; OR 0.198; 95%CI: 0.057-0.689; p=0.011, for number of baseline aPL positivity). Moderate to high titer of anti-β2GP1 and number of baseline aPL positivity were independently protective factors for anti-β2GP1 negativization (OR 1.45: 0.006-0.614; p=0.031). SLE, moderate to high titer of aCL and number of baseline aPL positivity were independently associated with aCL negativization (OR 18.2; 95%CI: 1.45-228; p=0.025, for SLE; OR 0.217; 95%CI: 0.053-0.888; p=0.034, for moderate to high titer of aCL; OR 0.198; 95%CI: 0.057-0.689; p=0.011, for number of baseline aPL positivity). Unfortunately, we didn’t find any relationship between aPL persistent positivity and further thrombosis/pregnancy morbidity due to limited events.

Conclusion: The proportion of aCL and anti-β2GP1 negativization are higher than LA. The number of positive antibodies and higher antibody load are associated with persistently positive serology. Patients with SLE were easier to get aCL negativization.