in 30%, followed by autoimmune thyroid disease in 10% of patients. During follow-up, 37 re-thrombosis occurred; 23 arterial and 14 venous events, with an incidence of 3.4 per 100 person-years (95% CI: 2.4–4.7). Significant CV risk factors for re-thrombosis were current smoking; hazard ratio 2.50, p=0.03 and chronic kidney disease; 3.44, p <0.01. Twenty-seven (73%) patients with re-thrombosis were triple positive for aPL compared to 113 (48%) without any event at follow-up (p <0.01). The cumulative death incidence was 4% (n=12) with sepsis due to bacterial infection being the most common cause. The median age at death was 63 years (IQR 51–71) and occurred 8 years (IQR 2–10) after diagnosis.

In addition, 35 (13%) APS-patients developed AID during the study period, corresponding to an incidence rate of 28.4 (95% CI; 19.3–40.3) per 1.000 person-years with mean time at risk of 4 (SD±2) years.

Conclusion APS patients are at high risk to develop other AID during the 5 years follow-up period. Multiple CV risk factors are present in APS-patients suffering re-thrombosis, with smoking and chronic kidney disease being most important. APS-patients are susceptible to sepsis following bacterial infection with high mortality. These findings might be helpful when considering risk stratification and alternate treatment options in this patient group.

PO.2.38 ANTI-β2GPI-DOMAIN 1 ANTIBODIES STRATIFY HIGH RISK OF EXTRA-CRITERIA MANIFESTATIONS IN A LARGE PROSPECTIVE CHINESE COHORT OF ANTIPHOSPHOLIPID SYNDROME

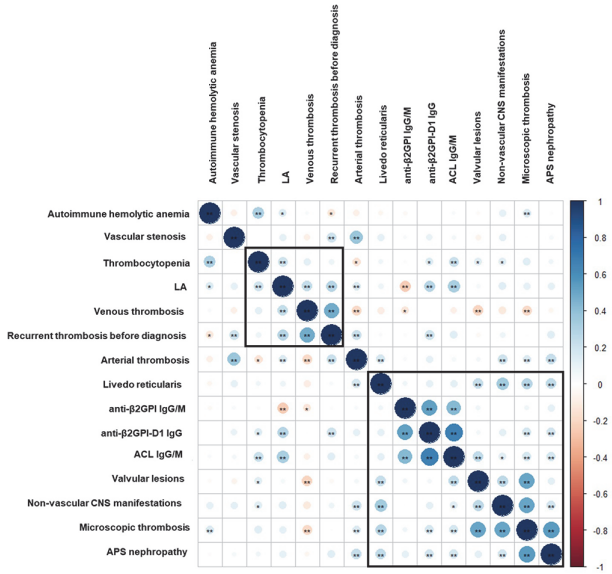
Y Zhou*, W Qi, J Zhao, M Li, X Zeng. *Department of Rheumatology and Clinical Immunology, Chinese Academy of Medical Sciences and Peking Union Medical College ~ Beijing ~ China*

10.1136/lupus-2022-elm2022.68

Purpose Anti-β2GPI-Domain 1 (β2GPI-D1) antibodies are potentially pathogenic in patients with antiphospholipid syndrome (APS), but their clinical associations were unclear. We aimed to evaluate the clinical characteristics of APS patients with anti-β2GPI-D1 positivity, and its utility in diagnosing APS among SLE patients.

Methods A total of 338 patients were included, of which 169 patients diagnosed with primary APS (PAPS group), 50 with APS secondary to SLE (SAPS group), 209 with SLE (SLE group). Serum anti-β2GPI-D1 IgG was measured using chemiluminescent immunoassay (Inova Company). Extra-criteria manifestations were analyzed, including thrombocytopenia, autoimmune hemolytic anemia, valvular lesions, APS nephropathy, and non-vascular neurological manifestations.

Results Similar presence of anti-β2GPI-D1 IgG was seen among PAPS (32.80%) and SAPS (32.0%) patients, and 96.4% of those with positive anti-β2GPI-D1 IgG showed triple aPLs positivity. Anti-β2GPI-D1 IgG was significantly associated with recurrent thrombosis before APS diagnosis, microscopic thrombosis (p<0.05), but not with adverse pregnancy events (Figure 1). Notably, patients with extra-criteria manifestations, especially thrombocytopenia and APS nephropathy, showed significantly higher titers in anti-β2GPI-D1 IgG (p<0.05). After a median follow-up of twenty-five months, patients with anti-β 2GPI-D1 IgG also showed a tendency of more extra-criteria events (3/55 vs 1/114, p=0.095), but not thrombotic events or adverse pregnancy events. Anti-β2GPI-D1 was positive among 8.13% of the SLE controls, and showed higher specificity (91.9%) in diagnosing SAPS among SLE patients as compared to classic aPLs.



Abstract PO.2.38 Figure 1

Conclusions Anti-β2GPI-D1 IgG had a stronger association with extra-criteria manifestations in APS patients compared to three classic APLs, which properly indicated its pathogenic role of microangiopathy.

PO.2.39 LONG TERM FOLLOW UP OF PATIENTS WITH PRIMARY OBSTETRIC ANTIPHOSPHOLIPID SYNDROME

[1]S Niznik*, [2]M Rapoport, [3]O Avnery, [3]M Ellis, [4]A Lubetsky, [1]R Shavit, [1]N Agmon-Levin. *[1]Allergy and Clinical Immunology Unit, Sheba Medical Center ~ Ramat Gan ~ Israel; [2]Internal Medicine C, Shamir Medical Center ~ Zrifin ~ Israel; [3]Hematology Institute and Blood Bank, Meir Medical Center ~ Kfar Saba ~ Israel; [4]The National Hemophilia Center and Thrombosis Unit, Amalia Biron Research Institute of Thrombosis and Hemostasis, Sheba Medical Center ~ Ramat Gan ~ Israel*

10.1136/lupus-2022-elm2022.69

Introduction Primary obstetric antiphospholipid syndrome (OAPS) is defined by specific morbidities and/or losses of pregnancy in the presence of persistent antiphospholipid antibodies (aPL). This variant of APS is usually treated during pregnancy and the post-partum period. Data on occurrence of thrombotic event during long term follow-up of OAPS patients is limited.

Methods A multi-center retrospectively cohort of female patients with primary APS (pAPS) was assembled during 2004–2019. Patients were grouped according to disease presentation as pure OAPS or thrombotic APS (tAPS) for those presenting with thrombosis. Clinical and serological data were compared between groups.

Results Of 219 pAPS female patients 67 (30.6%) were diagnosed with OAPS and 152 (69.4%) with tAPS. During >10 years of follow-up 24/67 (35.8%) OAPS and 71/152 (50%) tAPS suffered a new thrombotic event (p = 0.06), while obstetric morbidity was more likely in the OAPS group (31.3 vs. 10.5%, p < 0.001) respectively. Among patients with OAPS at presentation heart valve disease and the presence of

ANA were related to thrombosis following diagnosis (25 vs. 4.7%, p = 0.02; and 45.8 vs. 20.8%, p = 0.04 respectively).
Conclusion Thrombotic event following diagnosis were common among female patients with pAPS regardless of disease presentation. Heart valve disease and ANA positivity may be risk factors for thrombosis during follow-up of patients presenting with pure OAPS.

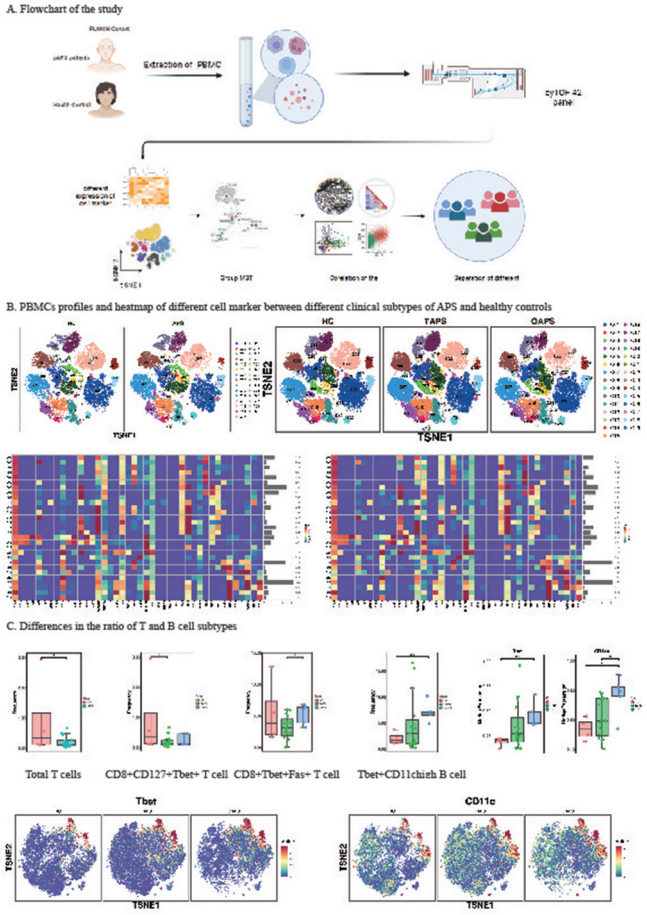
PO.2.40 HIGH EXPRESSION OF CD11C+TBET+ B CELL IN TRIPLE APL POSITIVE PRIMARY OBSTETRIC ANTIPHOSPHOLIPID SYNDROME PATIENTS

Y Long*, J Zhao, X Tian, M Li, X Zeng. *Department of Rheumatology, Peking Union Medical College Hospital (PUMCH), Peking Union Medical College and Chinese Academy of Medical Sciences ~ Beijing ~ China*

10.1136/lupus-2022-elm2022.70

Purpose Primary antiphospholipid syndrome (PAPS) is an autoimmune disorder characterized by the presence of pathogenic autoantibodies directed against membrane phospholipids and/or their associated plasma proteins. Current evidence suggests that immunocytes are involved in the thrombotic event and adverse pregnancy outcomes in APS. The incomplete understanding of the precise cellular and molecular events that drive disease activity poses a significant hurdle to the development of targeted therapeutic agents and predicting the prognosis. To achieve a single-cell systems-level perspective of APS immunopathogenesis, we leveraged the high-dimensionality of mass cytometry to (1) assess peripheral blood mononuclear cell profiles in different clinical phenotypes of APS and controls, (2) validate the function of the noteworthy cell subpopulations.
Method A total of 20 PAPS patients were recruited for this study. All the PAPS patients were newly diagnosed by 2006 Sydney APS criteria from November 2021 to March 2022 in Pecking Union Medical College Hospital. In addition to the typical clinical symptoms, these patients had high titers of IgG for triple antiphospholipid antibodies (APL) positive and had never received treatment. Meanwhile, 4 age and sex-matched healthy people were selected as controls (HC). EDTA anticoagulated venous blood samples were collected from each participant. Peripheral blood mononuclear cells (PBMCs) were isolated by density-gradient centrifugation with Ficoll. The concentration of samples was adjusted to 1*106/mL. Mass cytometry (CyTOF) was performed to detect the expression intensity of PBMC surface markers. CyTOF data was analyzed using FlowJo software and R package. Comparisons between groups were performed using Mann-Whitney U test and One-way ANOVA.

Results we mapped a comprehensive immunological profile of PBMCs from patients with primary thrombotic APS (TAPS) and primary obstetric APS (OAPS). Our findings showed that all PAPS patients have reduced T cell expression compared with HC (p=0.019). The overall T cells decreased mainly in the TAPS patients, where the proliferation/activated CD8+ cytotoxic T cells reduced, such as CD8+CD127+Tbet+ T cells (TAPS vs. HC = 0.015). However, in the OAPS group, the expression of activated CD8+ cytotoxic T cells was significantly increased compared to both TAPS and HC (CD8+Tbet+Fas+, OAPS vs. HC p = 0.0046; OAPS vs. TAPS p = 0.0011). We found that the B cell subset in OAPS group have a significantly different distribution from TAPS and HC. And we identified a distinct increased Tbet+CD11chigh B cell subset in OAPS patients (OAPS vs. HC p = 0.0065; OAPS vs. TAPS p = 0.033).



Abstract PO.2.40 Figure 1

Conclusions These results suggest that triple APL-positive patients with different clinical subtypes of PAPS have their own specific immune cell expression. The high expression of Tbet+CD11chigh B cell may be involved in the pathological pregnancy process and closely linked to disease development in OAPS patients. The proliferation/activated CD8+ cytotoxic T cell is more likely to play a role in regulating the peripheral differentiation process of the Tbet+CD11chigh B cell subset.

PO.2.41 CLINICAL CHARACTERISTICS OF ADVERSE PREGNANCY OUTCOME PATIENTS WITH APL-POSITIVE IN CHINESE COHORT

Y Long*, J Zhao, X Tian, M Li, X Zeng. *Department of Rheumatology, Peking Union Medical College Hospital (PUMCH), Peking Union Medical College and Chinese Academy of Medical Sciences ~ Beijing ~ China*

10.1136/lupus-2022-elm2022.71

Purpose To compare clinical, laboratory, treatment, and adverse pregnancy outcomes, and live birth rate data in women with persistently positive antiphospholipid antibodies in China.
Methods Patients with persistent aPLs (lupus anticoagulant [LAC], anticardiolipin antibody [aCL], and/or antibody to β2-