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

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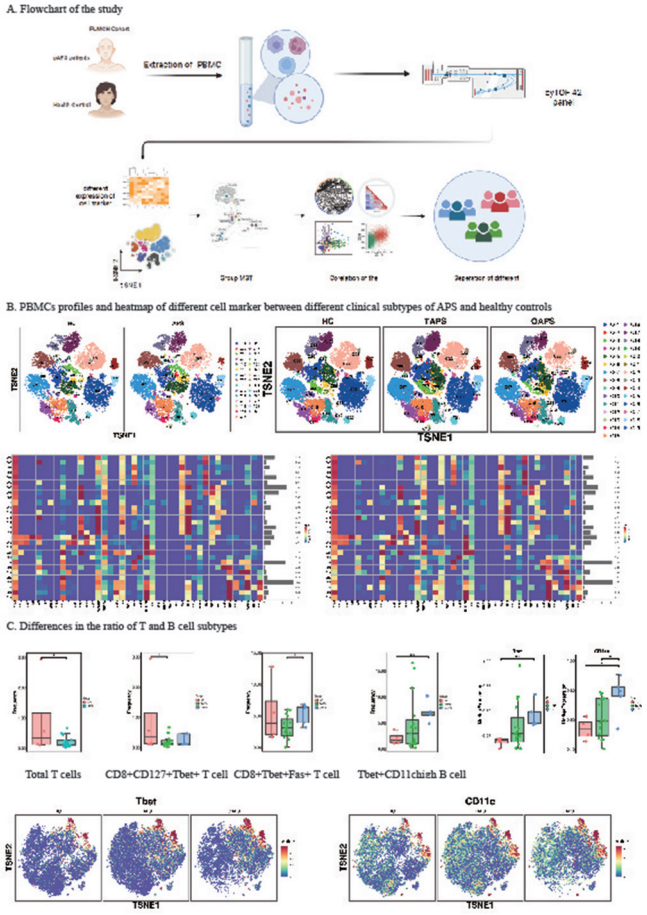
Purpose Primary antiphospholipid syndrome (PAPS) is an autoimmune disorder characterized by the presence of pathogenic autoantibodies directed against membrane phospholipids and/or their associated plasma proteins. Current evidence suggests that immunocytes are involved in the thrombotic event and adverse 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).
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.



Abstract PO.2.40 Figure 1

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

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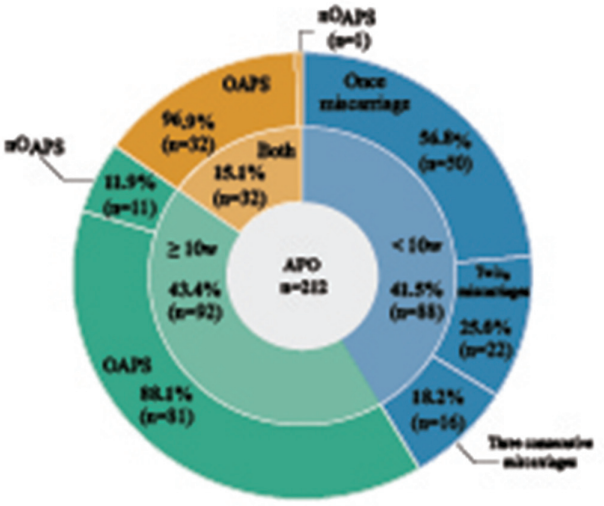
Purpose To compare clinical, laboratory, treatment, and adverse pregnancy outcomes, and live birth rate data in women with persistently positive antiphospholipid antibodies in China.
Methods Patients with persistent aPLs (lupus anticoagulant [LAC], anticardiolipin antibody [aCL], and/or antibody to β2-

glycoprotein I [anti-_2GPI]) positive were recruited for the present prospective study from Peking Union Medical College Hospital. Demographic, clinical, serologic, treatment and pregnant data were recorded at the time of the first study visit. Student's t-test was used to compare values following normal distribution, while Mann-Whitney-Wilcoxon's test was used for data not following a normal distribution. Chi-square test and Fisher's exact test were used to compare categorical variables.

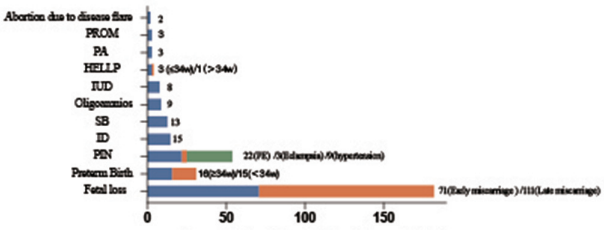
Results Between 2009 and 2021 we enrolled 513 pregnant patients, of whom 212 had adverse pregnancy outcomes with persistent aPLs-positive. A total of 454 pregnancies occurred in our center. The live birth rate before enrollment was 27.71% (110/397), and after enrollment, the live birth rate increased to 61.4% (35/57). 41.5% (n=88) had isolated early miscarriages, similar to the percentage of isolated middle and later period APO (n=92, 43.4%). Only 32 patients had both early and late APO. Among the isolated early miscarriage group, over half of patients had one miscarriage (n=50), and 22 patients had twice. However, eighteen percentage patients had three consecutive miscarriages, which accords with the 2006 Sydney APS diagnosis. In the late APO group, most patients can be diagnosed with APS (n=81, 88%). Among all adverse pregnancy events, we found that fetal loss was the most important type (n=182, 40.1%), followed by pregnancy-induced hypertension, with 22 times preeclampsia and three times eclampsia. In third place was preterm birth, there was no difference in the proportion of preterm births before or after 34 weeks.

Conclusion In this study, a significant increase in the live birth rate was shown after aPLs were identified. Fetal loss especially late period miscarriage is the most frequent poor outcome. Most patients in this group meet the diagnosis of APS. Patients with early miscarriage, although only 18.2% of them may diagnose with APS, should also be treated if patients suffered two consecutive miscarriages to obtain a better pregnancy outcome.

Abstract PO.2.41 Figure 1 Flowchart of the study (persistence aPLs positive APO women in PUMCH)



Abstract PO.2.41 Figure 2 Proportion of APO in different periods



Abstract PO.2.41 Figure 3 Proportion of different type of APO

PO.2.42 THE VALUE OF IGA-ACL AND IGA-AB2-GP1 IN CLINICAL AND LABORATORY MANIFESTATIONS OF SYSTEMIC LUPUS ERYTHEMATOSUS

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The study was performed at the V.A. Nasonova Research Institute of Rheumatology within the framework of the fundamental topic FURS-2022–003

The immunological criteria for systemic lupus erythematosus (SLE) include antiphospholipid antibodies (aPL), the value of IgA remains unclear whether they are a marker of SLE activity or the risk of thrombotic complications.

Aim to analyze the correlation between SLE activity and its clinical manifestations with IgA antibodies to cardiolipin (aCL) and IgA antibodies to beta-2 glycoprotein 1 (aß2-GP1) levels.

Method There were 112 patients with SLE (94 women and 18 men), of which 50 (45%) patients with SLE and antiphospholipid syndrome (APS) and 62 (55%) patients with SLE. Mean age was 36.0 [26.5–44.5], disease duration was 7.6 [2.7–17.5]. All patients had more than 4 criteria for the diagnosis of SLE (ACR, 1997). The study of immunological parameters in addition to SLE-mediated antibodies included IgA-aCL and IgA-aß2-GP1 by chemiluminescence analysis (CLA). The activity of SLE was assessed on a scale SLE Disease Activity Index-2000 (SLEDAI-2K). The control group consisted of 100 healthy donors of comparable age.

Results Based on the mean values of the control group in the determination of IgA-aCL, IgA-aß2-GP1, the levels of positivity were distinguished according to the formulas: arithmetic mean (M) + 3 or 5 standard deviations (SD): M+3SD and M+5SD. We also used the values suggested by the reagent