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332.THROMBOSIS AND ANTICOAGULATION: CLINICAL AND EPIDEMIOLOGICAL

Do Patients with Antiphospholipid Syndrome Have More Significant Venous Thromboembolic Clot Burden?: A Single-Center Retrospective Analysis

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Background: Antiphospholipid syndrome (APS) is a prothrombotic condition defined by arterial or venous thrombotic events and/or obstetrical morbidity in the presence of persistently positive antiphospholipid antibodies (aPL). Venous thromboembolic disease (VTE), comprised mostly of deep vein thrombosis (DVT) and pulmonary embolism (PE), is the initial presenting clinical manifestation in approximately 35% of APS diagnoses. VTE is a heterogenous disease and can present with varying degrees of clot burden. Lower extremity DVT can present with thrombus in the iliofemoral, femoropopliteal, and/or distal calf veins; pulmonary embolism can present with thrombus in the main pulmonary arteries, lobar branches, segmental, and/or subsegmental branches. In both DVT and PE, more proximal clot burden portends higher morbidity and mortality. While VTE is a commonly encountered clinical presentation, the decision regarding whom to test for APS is often challenging. Current guidelines recommend that clinicians consider testing for APS in patients with unexplained venous or arterial thrombotic events, especially young patients, or when a patient has one or more specific adverse outcomes related to pregnancy. To date, no data exist to suggest that patients with APS are more likely to present with more extensive venous thromboembolic clot burden as compared to patients without APS.
Purpose: To assess clot burden in patients with a co-diagnosis of VTE and APS in comparison to patients with VTE without APS to determine if clot burden should be considered when deciding whom to test for APS.
Methods: This retrospective cohort study included adult patients with a history of VTE who had also been tested for APS within a multihospital academic healthcare system from December 1, 2019 through January 31, 2022. All patients in the study had a history of VTE and were considered to be positive for APS if they had persistently positive aPL and/or lupus anticoagulant in accordance with the revised Sapporo APS Classification Criteria. Patients were excluded if they had confounding provoking risk factors for thrombosis. Patients were stratified as APS and non-APS. Significant clot burden was defined as PE involving the main and/or lobar pulmonary arteries or DVT involving the iliofemoral veins. Assessment of clot burden was performed by review of radiology reports of the sentinel clotting event.Patients were further stratified based on age, BMI, insurance status, severity of APS (triple-positive APS versus non-triple-positive APS), and type of APS (primary versus secondary). Exploratory analysis of the patient groups was performed. Summary statistics are presented as percentages for categorical data and median with interquartile range for quantitative data. Chi square test was used to compare percentages and t-test was used to compare means. Univariate and multivariate regression models were used to analyze the predictors of significant clot burden.
Results: We identified 748 patients with a history of VTE who had also been tested for APS. The study population was comprised of 53.1% females with a median age of 59 (IQR 46-69). A majority of the patients were Caucasian (85%).
APS was detected in 75 (10%) patients. Significant clot burden was present in 29 (38.7%) APS patients and 269 (40.0%) non-APS patients (OR 0.95, 95% CI 0.58-1.56; P = 0.85). On univariate analysis, age (OR 1.01, 95% CI 1.00-1.02; P = 0.02) and being uninsured (OR 9.2, 95% CI 1.10-76.10; P = 0.04) were associated with more significant clot burden. No predictors for significant clot burden were found on multivariable analysis. Triple positive APS (OR 0.83, 95% CI 0.16-4.21; P = 0.82) and primary APS (OR 0.72, 95% CI 0.15-3.45; P = 0.68) were not associated with more significant clot burden.
Conclusions: In this retrospective cohort of 748 patients with a history of VTE, the presence of antiphospholipid syndrome was not associated with more significant VTE clot burden as compared to non-APS patients. Based on these data, VTE clot burden may not be a reliable predictor for the presence of APS. Study limitations include selection bias, retrospective design, and lack of precise volumetric measurement of blood clots.

Disclosures No relevant conflicts of interest to declare.

Table 1. Baseline characteristics

		Significant Clot Burden (n=298) n (%)	Non-Significant Clot Burden (n= 450) n (%)
Age, median (IQR)		61 (48-70)	58 (45-67)
APS Status	APS	29 (9.7%)	46 (10.2%)
	Non-APS	269 (90.3%)	404 (89.8%)
APS Type	Primary	23 (79.3%)	33 (71.7%)
	Secondary	6 (20.7%)	13 (28.3%)
APS Severity	TP	3 (10.3%)	9 (19.6%)
	NTP	26 (89.7%)	37 (80.4%)
Gender	Female	165 (55.4%)	232 (51.6%)
	Male	133 (44.6%)	218 (48.4%)
Insurance Status	Uninsured	7 (2.3%)	2 (0.4%)
	Insured	291 (97.7%)	448 (99.6%)
BMI, median (IQR)		32 (28-37)	31 (27-37)

Abbreviations: APS= Antiphospholipid syndrome, TP= Triple-positive, NTP= Non-triple-positive

Figure 1

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