LABUPDATE no. 47

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ANTIPHOSPHOLIPID SYNDROME LABORATORY TESTING

Anti-phospholipid syndrome (APS) is an acquired autoimmune disorder that manifests clinically as recurrent venous or arterial thrombosis and/or pregnancy morbidity, with proven persistent laboratory evidence of antibodies against phospholipids (aPL).

APS can occur as a primary disease or in the presence of another autoimmune disorder, most commonly systemic lupus erythematosus (SLE).

The diagnosis of APS should be suspected in a patient with unprovoked or recurrent thrombotic events, especially in younger patients, and/or adverse pregnancy outcomes. Other clinical indications can include *livedo reticularis*, a mild thrombocytopenia, heart valve disease, kidney disease and neurological manifestations. The diagnostic approach to APS is indicated in Figure 1.

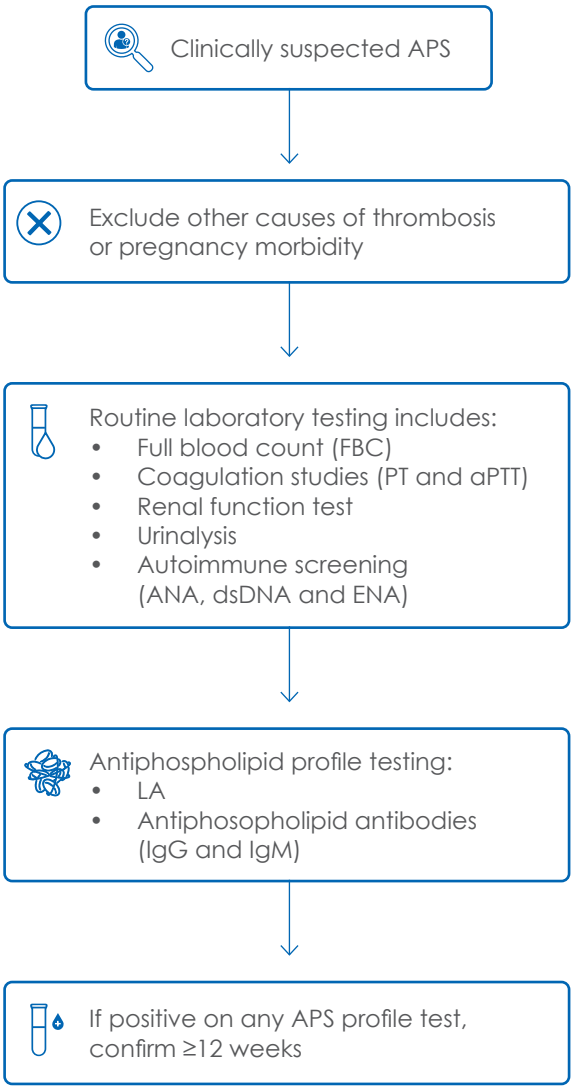

FIGURE 1: DIAGNOSTIC APPROACH TO APS

ANTI-PHOSPHOLIPID SYNDROME (APS) PROFILE

The combination of immunological laboratory enzyme-linked immunosorbent assays (ELISA) for antibodies against cardiolipin (aCL), beta-2-glycoprotein I (anti-β2GPI) and phosphatidylserine, together with lupus anticoagulant sensitive coagulation assays, including the activated partial thromboplastin time (aPTT-LA) and dilute Russell's viper venom time (dRVVT), on one report will ease the interpretation of patients being worked-up for anti-phospholipid syndrome.

It is recommended to use the revised Sapporo APS Classification Criteria (also known as the Sydney criteria) to diagnose a patient with suspected APS (see Table 1).

TABLE 1: REVISED INTERNATIONAL CONSENSUS DIAGNOSTIC CRITERIA FOR ANTI-PHOSPHOLIPID SYNDROME

At least one laboratory and one clinical criterion must be met before a diagnosis of APS can be made. Clinical and laboratory criteria cannot be more than five years apart.	
Laboratory criteria	**Clinical criteria**
• Positive plasma lupus anticoagulant demonstrated on two occasions at least 12 weeks apart. • Presence of anticardiolipin antibody of either IgM and/or IgG isotype present at medium or high titers (i.e. >40 MPL or GPL; or >99th percentile) on two occasions measured at least 12 weeks apart.	• One or more objectively confirmed venous, arterial and/or small vessel thrombosis (in the absence of significant vessel wall inflammation). **Pregnancy complications** • One or more unexplained deaths of a morphologically normal fetus at >10 weeks' gestation. • One or more premature births of a morphologically normal fetus before 34 weeks gestation and secondary to pre-eclampsia/eclampsia or features of placental insufficiency. • Three or more spontaneous unexplained pregnancy losses before 10 weeks' gestation with no identifiable secondary cause.

Ampath now offers the APS profile for diagnosis. Refer to Table 2 for test information.

TABLE 2: APS PROFILE INFORMATION

Mnemonic	**LUP**
Specimen type	Venous blood
Container	Two citrate tubes and one serum-separating tube: CO1 x 2 SO1 x 1
Transport	Citrate tube: To reach the lab within four hours, if not possible, the sample should be centrifuge and frozen.
Turnaround time	24 hours (weekdays only)

For more information, contact your local Ampath representative.