

## CLINICAL ASSOCIATIONS OF ACA REPORTED BY SPECIALTY

<b>IMMUNOLOGY/ RHEUMATOLOGY</b>	<b>OBSTETRICS</b>	<b>HEMATOLOGY</b>	<b>NEUROLOGY</b>
<ol style="list-style-type: none"> <li>1. Antiphospholipid Antibody Syndrome</li> <li>2. SLE</li> <li>3. Lupus Anticoagulant</li> <li>4. Chronic Biologic False Positive Test for Syphilis</li> <li>5. Rheumatoid Arthritis</li> <li>6. Sjogrens Syndrome</li> <li>7. Ulcerative Colitis</li> <li>8. Behcet's Syndrome</li> <li>9. Drug Induced LE</li> <li>10. Other Autoimmune Disorders</li> </ol>	Various Pregnancy Morbidities	<ol style="list-style-type: none"> <li>1. Arterial &amp; Venous Thrombosis</li> <li>2. Thrombocytopenia</li> <li>3. Coomb's Positive Hemolytic Anemia</li> <li>4. Evan's Syndrome</li> </ol>	<ol style="list-style-type: none"> <li>1. Cerebral Thrombosis</li> <li>2. TIA</li> <li>3. Chorea</li> <li>4. Transverse Myelopathy</li> <li>5. Epilepsy</li> <li>6. Migraine</li> <li>7. Sneddon's Syndrome</li> <li>8. Cognitive Dysfunction</li> <li>9. Ischemic Optic Neuritis</li> <li>10. Retinal Vein &amp; Artery Occlusion</li> </ol>
<b>CARDIOLOGY</b>	<b>PULMONARY</b>	<b>DERMATOLOGY</b>	<b>MISCELLANEOUS</b>
<ol style="list-style-type: none"> <li>1. Libman Sacks Endocarditis</li> <li>2. Premature MI</li> <li>3. Coronary Thrombosis</li> </ol>	<ol style="list-style-type: none"> <li>1. Pulmonary Emboli</li> <li>2. Pulmonary Hypertension</li> <li>3. Alveolar Hemorrhage</li> </ol>	<ol style="list-style-type: none"> <li>1. Livedo Reticularis</li> <li>2. Digital Gangrene</li> <li>3. Chronic Leg Ulcers</li> </ol>	<ol style="list-style-type: none"> <li>1. Drugs: Chlorpromazine, Pronestyl, Others</li> <li>2. Infections: AIDS, Mononucleosis, Hepatitis C, Others</li> <li>3. Malignancies</li> </ol>

## GUIDE TO INTERPRETATION OF ANTIPHOSPHOLIPID ABS

- ▶ ACA are seen in:
  - ~40% of SLE
  - Active SLE can increase ACA titer.
- ▶ Prevalence of ACA:
  - 0 - 10% of blood donors and pregnant women
  - 7.5% of healthy women
  - 13.3% of elderly with chronic illness.
- ▶ Antiphospholipid antibodies (APA) may be absent in up to 20-30% of patients as follows:
  - Insufficient removal of platelets during specimen processing for LA which may cause a false negative result
  - False negative results can occur in Nephrotic Syndrome
  - LA titers can fall during Rx
  - APA can disappear with active thrombotic process

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## GUIDE TO INTERPRETATION OF ANTIPHOSPHOLIPID ABS CONT'D.

- ▶ Other antibody species can occur in the absence of ACA and LA:
  - Anti-beta<sub>2</sub>glycoprotein 1
  - Anti-phosphatidylserine
  - Anti-phosphatidyl ethanolamine and others.
- ▶ IgA (ACA) can be the only isotype present in some cases.
- ▶ Repeat testing is recommended if strong suspicion exists for Antiphospholipid Syndrome (APS) given the above scenarios.
- ▶ LA can diminish with active Rx more so than ACA.
- ▶ LA screening tests are not valid in the presence of heparin therapy.
- ▶ APA can occur in many infectious disorders, usually unassociated with clotting episodes and mainly of the IgM isotype.
- ▶ APA can occur in many autoimmune diseases (RA, Sjogren's Syndrome, PSS, ITP and many types of vasculitis).
- ▶ APA may be present in various malignancies.

## CRITERIA FOR CLASSIFICATION OF THE ANTIPHOSPHOLIPID ABS

- ▶ Clinical
  - Vascular Thrombosis  
One or more clinical episodes of arterial, venous or small-vessel thrombosis in any tissue or organ. Thrombosis must be confirmed by imaging, Doppler studies or histopathology, with exception of superficial-venous thrombosis. For histopathologic confirmation, thrombosis should be present without significant evidence of inflammation in the vessel wall.
  - Pregnancy Morbidity
    - One or more unexplained deaths of a morphologically normal fetus at or beyond the 10th week of gestation with normal fetal morphology documented by ultrasound or by direct examination of the fetus, or
    - One or more premature births of a morphologically normal neonate at or before the 34th week of gestation because of severe preeclampsia or eclampsia or severe placental insufficiency, or
    - Three or more unexplained consecutive spontaneous abortions before the 10th week of gestation with maternal anatomic or hormonal abnormalities and paternal and maternal chromosomal causes excluded.
- ▶ Laboratory
  - Anticardiolipin antibody (ACA) of IgG and/or IgM isotype in blood, present in medium or high titer, on two or more occasions, at least 6 weeks apart, measured by a standard enzyme-linked immunosorbent assay for Beta<sub>2</sub>-glycoprotein 1-dependent ACA's.
  - Lupus anticoagulant (LA) present in plasma on two or more occasions at least 6 weeks apart, detected according to the guidelines of the International Society on Thrombosis and Hemostasis.
- ▶ Patients with the syndrome should have at least one clinical plus one laboratory finding during their disease. The aPL test must be positive on at least two occasions more than 3 months apart.
- ▶ Source: Wilson WA, Gharavi AE, Koike T, et al. International consensus statement on preliminary classification criteria for definite antiphospholipid syndrome: report of an international workshop. *Arthritis Rheum* 1999;42:1309-1311