

CLINICAL SPECIFICATIONS

PHOSPHOLIPID

Function:

Phospholipids are a class of lipids that are a major component of all cell membranes. They play a role in the formation of lipid bilayers. Most phospholipids contain a diglyceride, a phosphate group, and a simple organic molecule such as choline.

Antibodies Appear:

Antiphospholipid Syndrome^{1,4}
 NIDDM⁷
 Systemic Lupus Erythematosus^{3,6}

Known Cross-Reactions: Anti-ribosomal P protein antibodies,¹ DNA,² Cardiolipin²

Clinical Significance:

Antibodies against phospholipids may have an important role in mediating platelet destruction in autoimmune disorders. Anti-phospholipid antibodies (anti-PL) have been shown to bind to the membrane of activated platelets; thus it has been postulated that this may result in increased destruction of platelets by the reticuloendothelial system.³ Anti-PL have been demonstrated in patients with autoimmune thrombocytopenia (AITP) and Systemic lupus erythematosus (SLE).³ Anti-PL are directed against a diverse group of phospholipids and phospholipid-binding proteins; among these, anti-cardiolipin (anti-CL), anti-beta-2-glycoprotein I (β 2-GP-I) and anti-prothrombin antibodies seem to be the most relevant from the clinical viewpoint.¹ Anti-PL have been found in moderate and severe noninsulin-dependent diabetes mellitus patients, and thus may suggest that autoimmune nerve destruction may be involved in diabetic neuropathy in NIDDM patients.⁷ Anti-phospholipid antibody syndrome may appear as a stand-alone syndrome or associated with major connective tissue disease such as SLE and may manifest in a number of neurological conditions.¹ Widespread thrombosis and infarction of placentas obtained from women with antiphospholipid syndrome (APS) was actually reported both in first and second trimester abortions.⁴ There is evidence from in vitro studies that anti-PL may induce pro-coagulant state at the placental level, thus playing a pathogenic role of thrombotic events in anti-PL-associated pregnancy.⁴ It can be concluded that impaired endothelial fibrinolysis is a potential prothrombotic mechanism in subjects with antiphospholipid antibodies.⁵

References:

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