

**Acute coronary syndrome during the antiphospholipid syndrome****N.Katamadze, A.Kistauri, M.Jibladze (Tbilisi, Georgia)**

The Antiphospholipid syndrome (APS) is a systemic autoimmune thrombophilic condition that is characterized by the presence of antibodies that recognize phospholipid-binding proteins (aPL) in blood. A great number of cardiac manifestations have been reported in association with these antibodies: coronary artery disease, valvular disease, cardiomyopathy and intracardiac thrombosis. APS can also cause left and right ventricular systolic and diastolic dysfunction as well as pulmonary hypertension. In the present chapter we shall focus on the pathophysiology of APS and main cardiac features related to the presence of aPL which may be of interest to clinicians.

**Key Words: acute coronary syndrome, antiphospholipid syndrome****Definition:**

Antiphospholipid Syndrome (APS) is also known as “Hughes” Syndrome. Antiphospholipid syndrome is a disorder in which immune system mistakenly produces antibodies against certain normal proteins in blood. Antiphospholipid syndrome can cause blood clots to form within arteries or veins as well as pregnancy complications, such as miscarriages and stillbirths. Antiphospholipid syndrome may lead to the formation of blood clots in legs, a condition known as deep vein thrombosis (DVT). Antiphospholipid syndrome may also cause blood clots to form in organs, such as kidneys or lungs. Damage depends on the extent and location of the clot. For instance, a clot in brain can cause stroke.<sup>1,6</sup>

**The role of phospholipids:**

In antiphospholipid syndrome, in body mistakenly produces antibodies (aPL) against proteins that bind phospholipids, a type of fat present in blood that plays a key role in clotting (coagulation). aPL are specialized proteins that normally attack body invaders, such as viruses and bacteria. When aPL attack phospholipid-binding proteins, in blood may clot abnormally.<sup>3,9,10</sup> (abb 1).

**Complications:**

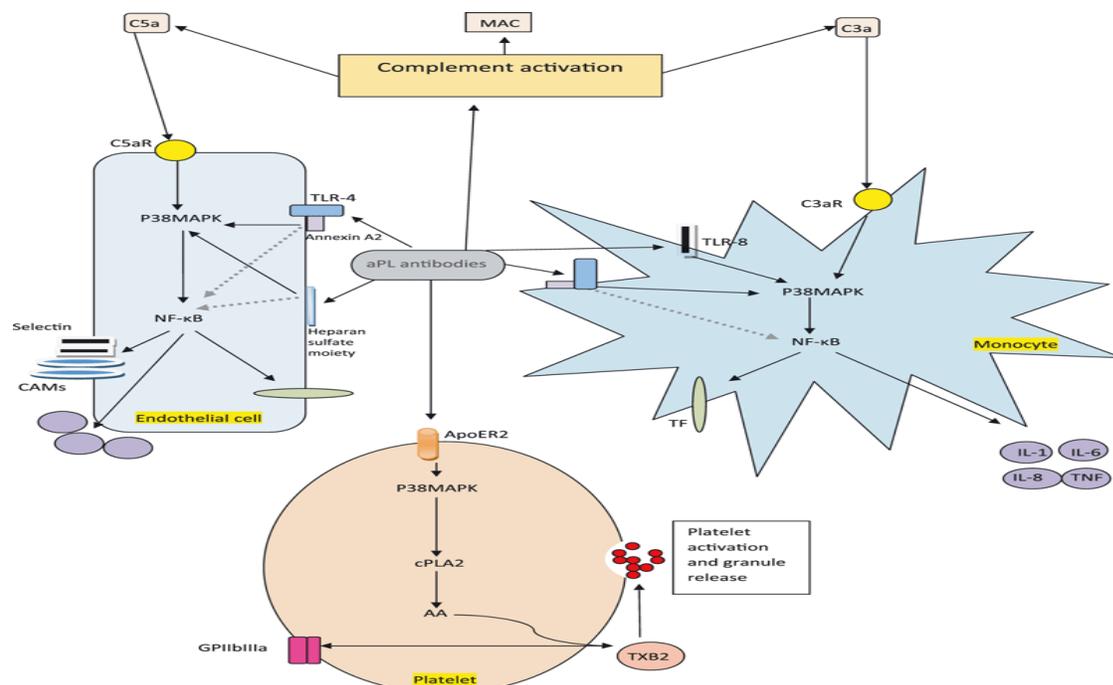
Complications may include - Kidney failure, Stroke ,Lung problems, Pregnancy complications, Cardiovascular problems.<sup>2,6</sup>

### Antiphospholipid Syndrome and Heart Disease:

Vigilance is required to establish if there is an underlying rheumatological condition in a patient who presents with presumptive infective endocarditis in the absence of risk factors. Treatment for systemic lupus erythematosus and primary APS are distinct. Our results suggest that lupus anticoagulant is a major risk factor for arterial thrombotic events in young women, and the presence of other cardiovascular risk factors increases the risk even further. Cardiac involvement occurs frequently. Leaflet thickening and vegetations are detected quite often echocardiographically, but hemodynamically significant stenotic and/or regurgitant valvular disease is uncommon. Antiphospholipid syndrome can also cause left and right ventricular systolic and diastolic dysfunction as well as pulmonary hypertension. Other findings include spontaneous echo contrast and in situ mural thrombosis.<sup>1,2,5,11,14</sup>

If a clot forms in leg (deep vein thrombosis), the clot can damage the valves in the veins in affected leg, which normally serve to keep the blood flowing upward to heart. This may result in a condition called chronic venous insufficiency, which causes chronic swelling and discoloration in lower legs, because of the impaired blood flow upward to heart. Another possible complication is heart damage.<sup>10,11</sup>

Abb. 1 Pathophysiology of APS



**Tests and Diagnosis:**

If it's one or more episodes of thrombosis or pregnancy loss that are not explained by known health conditions, man can schedule blood tests to check for abnormal clotting and for the presence of antibodies to phospholipid-binding proteins.

Blood tests for antiphospholipid syndrome look for at least one of the following three antibodies in your blood: Lupus anticoagulant, Anti-cardiolipin, Beta-2 glycoprotein I (B2GPI). To confirm a diagnosis of antiphospholipid syndrome, the antibodies must appear in blood at least twice, in tests conducted at least 12 weeks apart.<sup>4,8</sup>

**References:**

1. Antiphospholipid syndrome information page. National Institute of Neurological Disorders and Stroke. <http://www.ninds.nih.gov/disorders/antiphospholipid/antiphospholipid.htm>. Accessed Feb. 22, 2011.
2. Bermas BL, et al. Clinical manifestations of the antiphospholipid syndrome. <http://www.uptodate.com/home/index.html>. Accessed Feb. 22, 2011.
3. Bermas BL, et al. Pathogenesis of the antiphospholipid syndrome. <http://www.uptodate.com/home/index.html>. Accessed Feb. 22, 2011.
4. Bermas BL, et al. Treatment of the antiphospholipid syndrome. <http://www.uptodate.com/home/index.html>. Accessed Feb. 22, 2011.
5. Donadini MP, et al. Antiphospholipid syndrome: A challenging hypercoagulable state with systemic manifestations. *Hematology/Oncology Clinics of North America*. 2010;24:669.
6. Giannakopoulos B, et al. How we diagnose the antiphospholipid syndrome. *Blood*. 2009;113:985.
7. Long BR, et al. The role of antiphospholipid syndrome in cardiovascular disease. *Hematology/Oncology Clinics of North America*. 2008;22:79.
8. Pruthi RK (expert opinion). Mayo Clinic, Rochester, Minn. Feb. 27, 2011.
9. Rolf T Urbanus PhD. *The Lancet Neurology*. November 2009. The cardiac manifestations of antiphospholipid syndrome and their echocardiographic recognition.
10. Silbiger JJ. (PubMed) *J Am Soc Echocardiogr*. 2009 Oct;22(10):1100-8.

11. Yee DZ. (PubMed) Int J Rheum Dis. 2010 Oct;13(4):e62-6. Antiphospholipid antibodies and risk of myocardial infarction and ischaemic stroke in young women in the RATIO study: a case-control study.

**მწვავე კორონალური უკმარისობა ანტიფოსფოლიპიდური სინდრომის დროს  
ნ.ქათამაძე, ა.ქისტაური, მ.ჯიბლაძე (თბილისი, საქართველო)**

ანტიფოსფოლიპიდური სინდრომი არის სისტემური აუტოიმუნური თრომბოფილური დაავადება, რომელიც ხასიათდება სისხლში ანტოფოსფოლიპიდური ანტისხეულების არსებობით. კარდიული გამოვლინებების დიდი წილი ამ დაავადების დროს სწორედ ამ ანტისხეულების არსებობასთან არის დაკავშირებული: კორონარული არტერიების დაავადება, სარქველოვანი დაავადებები, კარდიომიოპათია და ინტრაკარდიული თრომბოზი. ანტიფოსფოლიპიდური სინდრომი ასევე შეიძლება იყოს პარკუჭების სისტოლურ-დიასტოლური უკმარისობის, ასევე ფილტვისმიერი ჰიპერტენზიის მიზეზი. სტატიაში ყურადღებაა გამახვილებული ანტიფოსფოლიპიდური სინდრომის პათოფიზიოლოგიაზე და იმ კარდიალურ გამოვლინებებზე, რომლებიც შეიძლება საინტერესო იყოს კლინიციისთვის.

**გასაღების სიტყვები: მწვავე კორონალური სინდრომი, ანტიფოსფოლიპიდური სინდრომი.**