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CLINICAL SIGNIFICANCE OF APTT - ANTIPHOSPHOLIPID ANTIBODY SYNDROME PRESENTING AS STROKE.

Neurology

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ABSTRACT

The antiphospholipid syndrome is a systemic autoimmune disease defined by thrombotic or obstetrical events that occur in patients with persistent antiphospholipid antibodies. Anti-phospholipid antibodies (APLA) are a part of heterogeneous group of circulating serum polyclonal immunoglobulins (IgG, IgM, IgA or mixed) that bind negatively charged or neutral phospholipid component of cell membranes and cause increased tendency to venous or arterial thrombosis. Persistently positive APS requires that laboratory tests be conducted at least 12 weeks apart. We report a 67 years old pleasant lady presented with sudden onset dizziness, left sided weakness and right facial deviation for two days. In view of deranged aPTT and high clinical suspicion, Lupus anticoagulation tests were done using DRVVT which was prolonged. Tests were repeated after 12 weeks and Lupus anticoagulant remained positive. Routine aPTT detects upto 30% of APLAS, but DRVVT and Antibodies must be considered in such cases. This is a treatable condition, and can be prevented with long term anticoagulation.

Key Message- Routine aPTT detects upto 30% of APLAS, but DRVVT and Antibodies must be considered in such cases. This is a treatable condition, and can be prevented with long term anticoagulation.

KEYWORDS

APLA, Anti-cardiolipin, Stroke, SLE

INTRODUCTION -

The antiphospholipid syndrome is a systemic autoimmune disease defined by thrombotic or obstetrical events that occur in patients with persistent antiphospholipid antibodies.

Anti-phospholipid antibodies (APLA) are a part of heterogeneous group of circulating serum polyclonal immunoglobulins (IgG, IgM, IgA or mixed) that bind negatively charged or neutral phospholipid component of cell membranes and cause increased tendency to venous or arterial thrombosis[1].

Persistently positive APS requires that laboratory tests be conducted at least 12 weeks apart. Antiphospholipid antibodies target β2-glycoprotein I.[2] This suppresses the activity of tissue factor pathway inhibitor, reduces activated protein C activity, and activates complement.[3] Thrombotic events in APS can be venous, arterial, or microvascular APS is often associated with other systemic autoimmune diseases (such as systemic lupus erythematosus); however, APS commonly occurs without other autoimmune manifestations.[4]

Not every positive antiphospholipid antibody test is clinically significant. Lupus anticoagulant testing correlates better with clinical events than anti-cardiolipin antibodies or anti-β2 glycoprotein I antibodies.

Case Presentation -

A 67-year lady developed sudden onset dizziness, left sided weakness and right facial deviation. Examination revealed an alert patient with impaired higher mental functions, left hemineglect, left UMN facial palsy and left hemiparesis (2/5). NCCT Head revealed hypodensity in right MCA territory. Hematological investigations revealed thrombocytopenia but rest of the work up was normal. MRI Brain revealed acute infarcts in right frontal, parietooccipital and basal ganglia{{[Figure-1]}} Further work up was sent for aPTT, which was significantly delayed while the PT/INR was normal. Lupus anticoagulant was found to be positive. Tests for ANA and dsDNA were negative. 2D Echo revealed no vegetation/clot/RWMA. Patient was managed with single antiplatelet and statin.

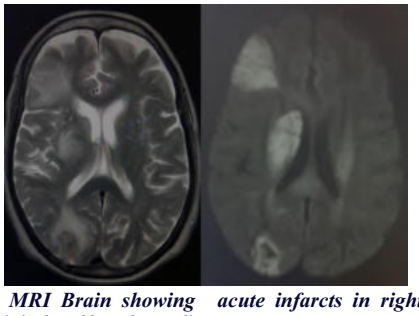

Figure 1: MRI Brain showing acute infarcts in right frontal, parietooccipital and basal ganglia.

In view of deranged aPTT and high clinical suspicion, Lupus anticoagulation tests were done using DRVVT which were prolonged. Tests were repeated after 12 weeks and Lupus anticoagulant remained positive. The aCL and anti-β2GPI antibodies (IgG, IgM, or IgA) titers were significantly high (>40GPL).She was started on oral anticoagulation (INR:2.5-3.5). She responded well and didn't have stroke in long term follow-up.

DISCUSSION-

Antiphospholipid Syndrome (APS)[5] was first coined in 1980s. It is an autoimmune disorder identified by the presence of venous thromboembolism, arterial thrombotic complications, and/or pregnancy morbidities with the persistent presence of antiphospholipid antibodies (aPL) [6] such as lupus anticoagulant, anticardiolipin, and anti-b2-glycoprotein-I antibodies as per revised Sapporo criteria. [7] Among several types of aPL, [8] lupus anticoagulant [9] has been shown to be the strongest risk factor for thrombosis. Repeat test 12-week apart is important, because transient aPL test is positive in some infections and medications. [10] APS Patients, compared to normal individuals are at high risk for atherosclerosis, myocardial infarction, valvular heart disease and stroke. Vascular endothelial cell dysfunction and subsequent complement proteins activation by aPL plays a major role in the pathogenesis of APS. [11]

This is a documented case of strokes in old lady with presence of lupus anticoagulant antibodies.As per Revised Sapporo classification

criteria for diagnosis of antiphospholipid antibody syndrome, the presence of at least one of the clinical criteria (vascular thrombosis and/or pregnancy morbidity) and at least one of the laboratory criteria (detection of lupus anticoagulant, anticardiolipins, or anti-b2-glycoprotein-I antibodies) is required. This case was diagnosed as stroke due to antiphospholipid antibody syndrome. She was started on oral anticoagulation (INR:2.5-3.5). She responded well and didn't have stroke in long term follow-up. She was counselled for lifelong anticoagulation and the risk of bleeding and need regular follow-up with PT and INR report.

CONCLUSION-

When there are clinical symptoms such as recurrent arterial and venous occlusive events and/or recurrent foetal loss, without any underlying known clinical conditions causing thrombosis, the clinicians should suspect APS and investigate for aPL, as early diagnosis may influence the course of the disease. Routine aPTT detects upto 30% of APLAS, but DRVVT and Antibodies must be considered in such cases. This is a treatable condition, and can be prevented with long term anticoagulation.

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