Primary Antiphospholipid Syndrome: A Case Report

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Abstract

Primary Antiphospholipid Syndrome (PAPS) is a rare autoimmune disorder associated with thromboembolic events that may affect either arterial or venous vasculature. PAPS should be suspected in patients presenting with clinical symptoms such as deep vein thrombosis, arterial occlusive events, recurrent fetal loss, transient ischemic attacks, or other thromboembolic phenomena, without underlying conditions such as systemic lupus erythematosus (SLE) or rheumatoid arthritis. This report presents the case of a young woman diagnosed with Primary Antiphospholipid Syndrome following a history of a fetal loss at 20 weeks, with no features of SLE or rheumatoid arthritis.

Keywords: Antiphospholipid Syndrome (APS), Anticardiolipin Antibody (aCL), Anti-Beta-2-Glycoprotein I Antibody (Anti-B2-GPI), Antiphospholipid Antibody (aPL)

Introduction

Antiphospholipid Syndrome (APS) is a systemic autoimmune disease characterized by arterial or venous thrombosis and/or pregnancy morbidity, all associated with the presence of antibodies such as anticardiolipin (aCL) antibodies, anti-beta-2-glycoprotein I (Anti-B2-GPI) antibodies, or lupus anticoagulant (LA)[1]. According to the international consensus statement on preliminary classification criteria, APS can only be diagnosed when at least one clinical feature and one laboratory marker are present[2].

Primary APS (PAPS) occurs in the absence of other autoimmune diseases such as SLE or rheumatoid arthritis[3]. The prevalence of antiphospholipid antibodies in the general population ranges from 1% to 5%, but only a minority of these individuals develop APS. The annual incidence is approximately 5 new cases per 100,000

individuals, with a prevalence of 40-50 cases per 100,000 individuals. APS affects individuals of all ages, predominantly women aged 20-45 years.

Case Description

A 36-year-old female, mother of a one-year-old baby, presented with acute-onset right upper limb weakness while bathing on December 17, 2024. On her way to the hospital, she experienced mild headache and nausea. Before reaching the emergency room, her symptoms progressed to right facial deviation and dysarthria. Upon arrival at the emergency department, the ER physician confirmed the signs. While checking the vitals, her facial weakness, dysarthria and right upper limb weakness had resolved.

One month prior, she experienced intermittent brief episodes of holocranial headache and transient numbness in her right upper limb, lasting less than five minutes. She denied arthralgia, fever, or weight loss. Her obstetric history included one pregnancy loss at 20 weeks, followed by a normal delivery one year prior. She had a history of hypothyroidism (on Thyronorm 100 mcg since 2016) and polycystic ovarian syndrome (PCOS), though she was not on medication for PCOS since 2020.

Her family history revealed significant cardiac disease. Her father developed coronary artery disease (CAD) at 53 and passed away during cardiac surgery at 63. Three paternal uncles had CAD between 40-45 years and died from cardiac-related events. Her elder brother died of acute myocardial infarction at 37, while her younger brother experienced a minor cardiac event at 34 and is currently stable.

Neurological examination 20 minutes after arrival showed only dulling of sensation on the right side of the face and right upper limb. Provisional diagnosis of recurrent transient ischemic attack (TIA) was made. MRI of the brain revealed multiple infarctions in the left temporal lobe, basal ganglia, bilateral centrum semiovale, and left parietal region. MR angiogram was normal. Laboratory investigations for young stroke were initiated. The patient was started on antiplatelets, statins, neuroprotective agents, and enoxaparin, which was later overlapped and switched to warfarin to maintain an INR of 2-3.

Blood workup revealed:

- **Anticardiolipin antibody IgG**: 151.15u/m/(NL12.0)
- **Anti-B2-Glycoprotein I antibody IgG**: 208.58 Ru/mL(N<10)
- **Lupus anticoagulant:** >80mPL/mL (NL10.0)
- **Hemoglobin**: 11.9 g/dL

- **Platelet count**: 327,000 cells/cu.mm

Tests for ANA, ANA profile, dsDNA, ANCA, protein C and S, C3/C4, fasting homocysteine, antithrombin III, and serological markers for HIV, HBsAg, anti-HCV, and VDRL were negative. The patient was discharged on warfarin and aspirin (75 mg) and advised repeat APS profile testing after 12 weeks. Family members were counseled to undergo screening for antiphospholipid antibodies. On follow-up, the patient reported no recurrence of symptoms.

Discussion

Antiphospholipid Syndrome (APS) is a systemic autoimmune disease characterized by arterial, venous, or microvascular thrombosis, pregnancy morbidity, or non-thrombotic manifestations in the presence of persistent antiphospholipid antibodies (aPL)[4]. aPL induces endothelial cell activation, oxidative injury, and modulation of natural anticoagulants, leading to vasculopathy and thrombus formation.

The clinical presentation of APS varies widely, with common manifestations including deep vein thrombosis (39%), thrombocytopenia (30%), livedo reticularis (24%), stroke (20%), epilepsy (7%), TIA(5%) myocardial infarction (6%), leg ulcers (5%), and obstetric failure (20%)[5]. Infections and medications can transiently elevate aPL levels, emphasizing the importance of confirming persistent positivity over 12 weeks.

In the present case, the patient had one fetal loss at 20 weeks, recurrent TIAs with multiple ischemic infarctions (fig 1), and strong positivity for all three antiphospholipid antibodies, without features of SLE or rheumatoid arthritis, consistent with Primary APS.

The diagnosis of APS is made by revised Sapporo Criteria, which are based on clinical and laboratory parameters [2,6]. APA antibodies are anti-β2-GPI antibodies, aCL antibodies and Lupus anticoagulant.

These antibodies must persist for more than 12 weeks' duration because transient elevation of these antibodies can occur in some infections. Approximately 20% of HCV patients and up to 50% of HIV patients are associated with aPLS but no increased risk of thrombosis has been demonstrated in these patients.

Positivity of aPL occurs in bacterial infections including leprosy, tuberculosis, syphilis, and leptospirosis. Anti-β2-GPI IgG antibody was the commonest antibody that was persistently positive in patients with thrombosis.

Triple positivity of all antibodies had the highest specificity and positive predictive value to diagnose as in the present case. APS on the first visit wherein β2-GPI antibody has the highest specificity and negative predictive value.

Family history of CAD raised the suspicion of genetic predisposition, warranting further investigation of paternal relatives.

There is not much information about familial primary antiphospholipid syndrome in India right now, although it has been reported rarely from other countries [7]. Treatment includes long-term anticoagulation therapy, which is critical in preventing recurrent thrombotic events.

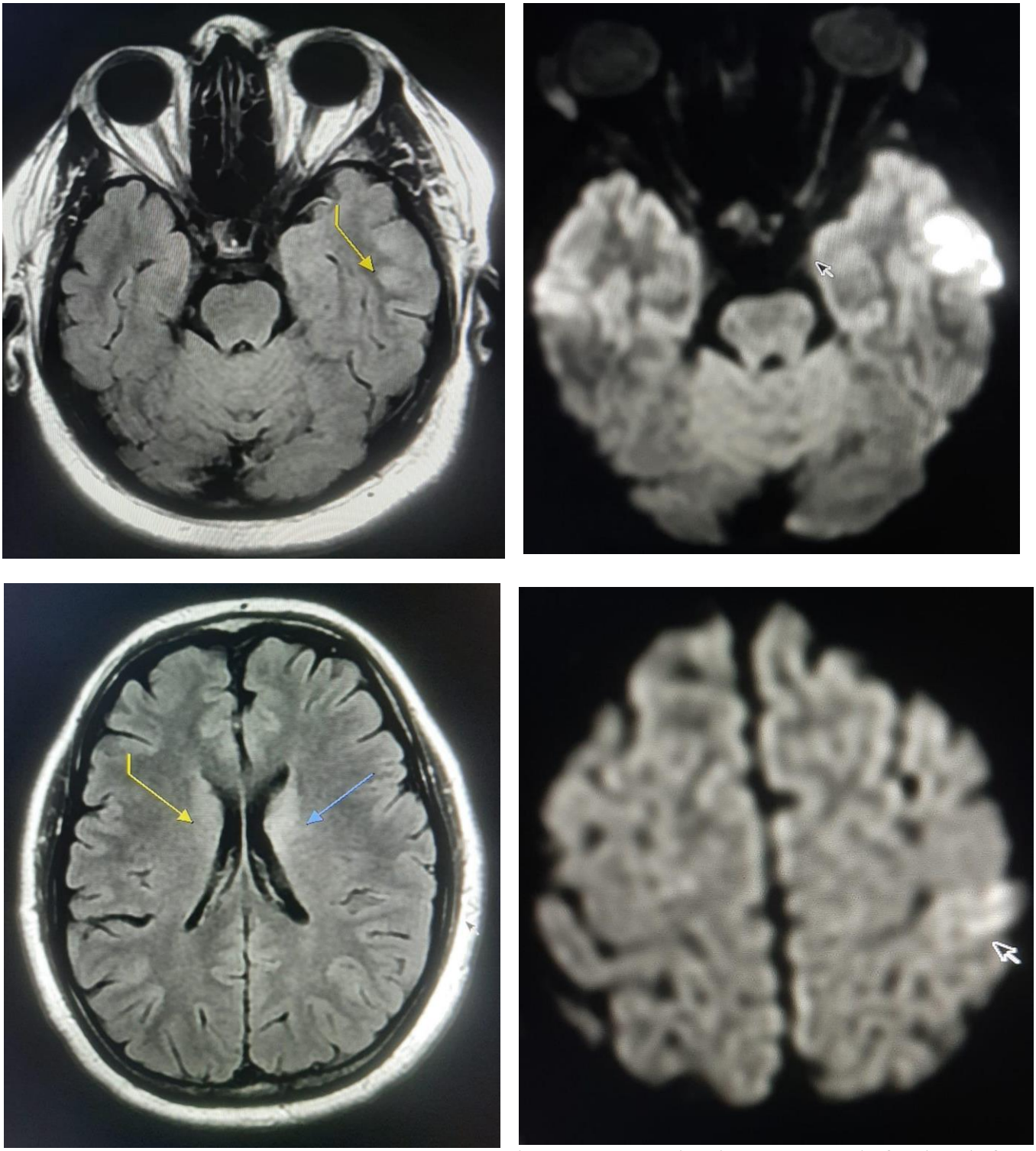

Fig: 1 MRI Brain shows Acute infaction left temporal, Bilateral basalgenglia and centrum semiovale and left parietal area.

Conclusion

Antiphospholipid Syndrome is an important cause of young ischemic stroke. Clinicians should consider this differential diagnosis in young female patients, especially those with pregnancy morbidities or thrombotic events. Early diagnosis and initiation of anticoagulation therapy are crucial for preventing complications.

References

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