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Case Report

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The Complexities of Postpartum Hemorrhage in Antiphospholipid Antibody Syndrome (APLA): A Complex Case Study Analysis

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Abstract

In the presence of antiphospholipid antibodies, antiphospholipid antibody syndrome (APLA) is an autoimmune thrombophilic condition characterised by recurrent venous, arterial, or small artery thrombosis and pregnancy morbidity. Secondary APS can develop in conjunction with other autoimmune disorders, or it can be primary in the absence of any underlying illness. It's a significant obstetric emergency and one of the leading causes of maternal morbidity and mortality worldwide. Managing postpartum haemorrhage in women with APS can be complex. The use of anticoagulants to manage APS needs to be balanced against the risk of bleeding. Specialists will need to balance the risk of clotting with the risk of bleeding, aiming to provide effective management for both conditions without exacerbating either. This case study elucidates the challenges encountered in the management of postpartum haemorrhage (PPH) associated with Antiphospholipid Antibody Syndrome (APLA). The case of a 24-year-oldpostnatal woman experiencing excessive bleeding following delivery due to APLA and recurrent miscarriages emphasizes the complexities and considerations essential for effective management in such scenarios.

Keywords: autoimmune disorder, postpartum haemorrhage, phospholipid-binding proteins.

Introduction

APLA syndrome, also known as Hughes syndrome, was first described in the 1980s by Dr. Graham Hughes. Antiphospholipid antibodies cause antiphospholipid syndrome, also known as antiphospholipid antibody syndrome (APS or APLS), an autoimmune hypercoagulable condition. [1]Antiphospholipid syndrome (APLS) is a multisystemic autoimmune disorder. The presence of persistent antiphospholipid antibodies (APLA) in the context of arterial and venous thrombosis and/or pregnancy loss is the hallmark of APLS. [2]Some estimates indicate that the incidence of the APS is around 5 new cases per 100,000 persons per year and the prevalence around 40–50 cases per 100,000 persons.[3]APS is a medical condition with a high prevalence rate, as 15 to 20% of women who experience recurrent miscarriage exhibit APS. [4] One of the main diagnostic criteria for APLA syndrome is the existence of aPL, which includes antibodies such as lupus anticoagulant, anticardiolipin, and anti-beta-2-glycoprotein I antibodies. However not every individual with aPL experiences clinical symptoms, which complicates the process of diagnosis as well as treatment. [5] Uncertainty surrounds the precise processes by which aPL induce thrombosis and problems associated to pregnancy. It has been hypothesized that these antibodies cause a prothrombotic condition by interacting with different cells and proteins in the immune system, endothelium, and coagulation cascade. [6]

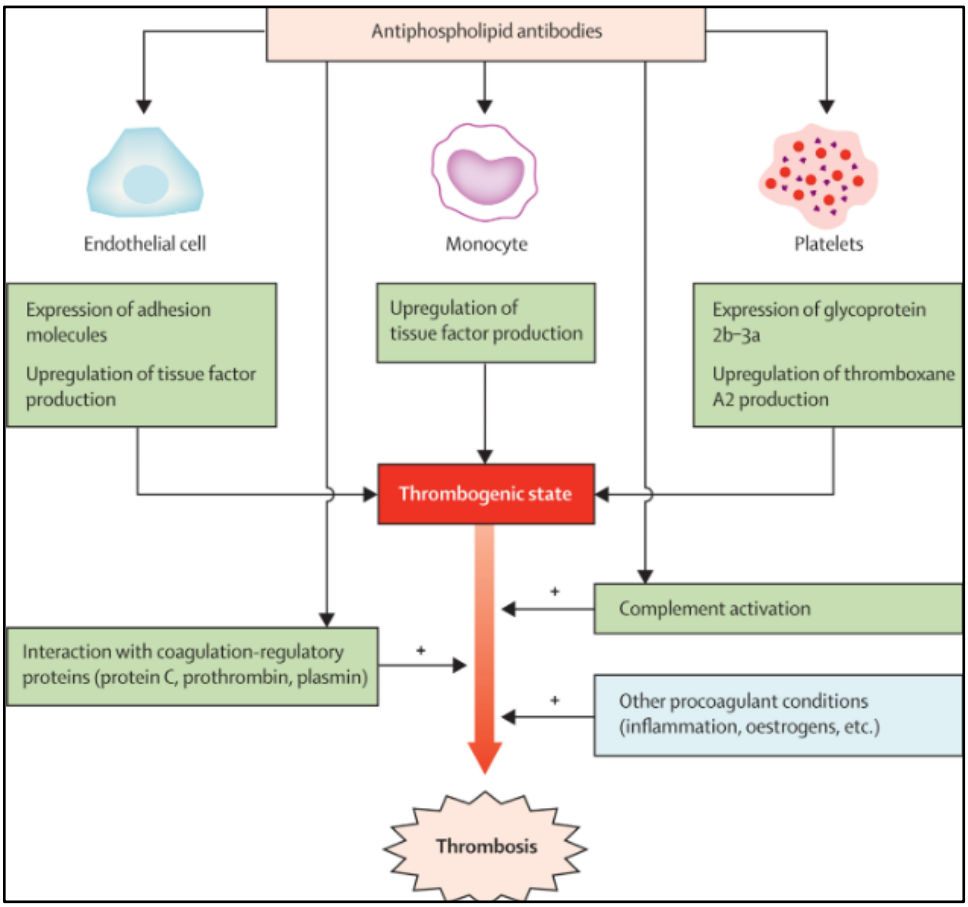

Figure no 1: Pathophysiology of Antiphospholipid antibody (APLA) syndrome [7]

Case presentation

A 24-year-old P1D1A3 with PND-0 was presented to the obstetrics and gynaecology department after experiencing excessive post-delivery bleedingfollowing a recent stillbirth. Her past medical history indicated a history of multiple miscarriages. She was taking 0.4cc of enoxaparin subcutaneously and has a history of primary Antiphospholipid Antibody Syndrome (APLA), which was detected in second trimester. Remarkably, she did not report any bleeding manifestations before the recent delivery. Her prenatal period was uneventful without any complications. The patient blood pressure recording was 100/60 mmHg, pulse rate was 88/min at the time of admission.

Laboratory investigations

After the patient's evaluation, laboratory tests revealed that her blood contained antiphospholipid antibodies—anticardiolipin antibodies (IgG-18.39, IgM-24.09)—but no lupus anticoagulant (LA). Her hemoglobin levels are below the normal range i.e., 10.2 gm%. The prothrombin time of the patient is 11.6 sec with an INR ratio of 0.9. Other laboratory investigations like liver function test, renal function test, thyroid function test were all with in the normal limits.

Investigations	Day 1	Day 5	Day 15
Cardiolipin antibody IgG	Positive	Positive	Positive
Cardiolipin antibody IgM	Positive	Positive	Positive
APC	-	-	-
ESR	9mm/hr	-	-

APC : Activated protein C

Diagnosis

Basedon the patient's clinical presentation, combined with positive antiphospholipid antibody test results, led to a diagnosis of Antiphospholipid Antibody Syndrome with post-partum hemorrhage. The diagnosis of APLA is based on the presence of anti-β2 glycoprotein-I, aCL, or LA antibodies consistently for two or more occasions, separated by at least twelve weeks, together with clinical

signs of thrombosis or pregnancy problems.

Anticardiolipin and Anti-beta-2-glycoprotein I Antibodies

Anticardiolipin antibodies and anti-beta-2-glycoprotein I antibodies are measured using the enzyme-linked immunosorbent assay (ELISA), and other tests for IgG and IgM isotypes are also available. IgG antibodies correspond with clinical symptoms better than IgM or IgA antibodies.

Treatment approach

Immediate interventions involved hemostatic measures to control postpartum bleeding while ensuring a careful balance between preventing thrombotic events and managing bleeding risks in the setting of APLA.Oxytocin was administered to patient to induce uterine contraction and to reduce the bleeding. Tranexamic acid injection was also administered initially to reduce the excess bleeding. However, tranexamic acid was stopped after 2 doses to prevent excess clot formation. Cabergoline tablet at a dose of 0.5 mg was given to reduce the prolactin release thereby reducing the breast milk production. Tab. Acitrom 2mg was given to treat blood clots. Other treatment regimen given included antibiotic surgical prophylaxis post caesarean delivery. On the other hand, anticoagulant therapy (for treating APLA syndrome) is temporarily on withhold to patient to reduce further bleeding risk.

Management of Antiphospholipid Antibody Syndrome during postnatal period	6 hours after vaginal delivery, resume anticoagulation.
	Continue anticoagulation for 6 weeks in women who have had no past thrombosis and for life in women who have had prior thrombosis.
	Heparin is replaced by warfarin.

Discussion

Antiphospholipid antibodies are a hallmark of antiphospholipid syndrome (APS), an autoimmune disease that can cause hypercoagulability. Postpartum hemorrhage, or heavy bleeding after childbirth, can cause a number of issues for a woman with APS, including higher risk of thrombosis and challenges in managing hemostasis. This case exemplifies the intricate diagnostic challenges associated with APLA in the postnatal period. While the presence of antiphospholipid antibodies was established, the management of bleeding complications can be challenging.

Managing postpartum hemorrhage (PPH) in women with antiphospholipid syndrome (APS) presents a complex challenge due to the delicate balance between the increased risk of bleeding and the underlying prothrombotic state associated with APLA syndrome. In such cases, the decision to administer anticoagulants during or after PPH needs careful consideration by a medical team specializing in obstetrics, hematology, and critical care. While in this case the patient's anticoagulant medication was halted until the bleeding was under control. The decision to restart or continue anticoagulation should be made carefully, weighing the risk of thrombosis against the risk of bleeding.

Following the acute episode of postpartum hemorrhage, the patient was closely monitored for bleeding recurrence and thrombotic events. Collaboration among healthcare professionals ensured a balanced approach in managing bleeding complications without compromising thrombosis prevention. Periodic assessments of the anticoagulant therapy's effectiveness and discussions on future pregnancies were part of the long-term follow-up, which aimed to reduce the risks related to APLA.

Conclusion

Primary antiphospholipid antibody syndrome is a rare condition that should be suspected when clinical symptoms such as thrombosis of deep veins, arterial occlusive events, recurrent foetal loss, vasospastic phenomenon, or transient ischemic attacks occur in the absence of an underlying condition which triggers hypercoagulability. Continued anticoagulation therapy helps to prevent thrombotic episodes, and with optimal anticoagulant selection early in pregnancy, a healthy pregnancy is feasible with minimal risks to both mother and baby. APS pregnancies pose significant challenge for doctors. This case study highlights the necessity of thorough counselling, and multidisciplinary management for a successful pregnancy and .improved outcomes for affected individuals.

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