Bangladesh Journal of Medicine (BJM)
ISSN : 1023 - 1986
eISSN : 2408 - 8366

CASE REPORT

SLE WITH ANTIPHOSLIPID ANTIBODY SYNDROME AND AUTOIMMUNE HEMOLYTIC ANAEMIA PRESENTING CEREBRAL VENOUS SINUS THROMBOSIS - A RARE COMBINATION

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Abstract:
The combination of Antiphospholipid Antibody Syndrome (APS) and Autoimmune Haemolytic Anemia (AIHA) is extremely unusual. However, APS with underlying SLE has a well-documented link to Coomb's positive AIHA. Antiphospholipid antibody syndrome and autoimmune haemolytic anaemia can cause cerebral venous sinus thrombosis, which is a rare neurologic symptom. We reported a 16-year-old girl reported to the neurology ward with a dull aching headache in the occipital region, as well as a fever. MRI and MRV of brain was done and showed thrombosis in the posterior half of superior sagittal sinus, right transverse, sigmoid and straight sinus. Anti-Ds DNA, ANA, and direct and indirect Coomb's tests were all positive. Anti-Cardolipin IgM levels were high, and lupus anticoagulants (LA1 and LA2) were positive. The importance of recognizing an uncommon presentation of SLE with antiphospholipid syndrome and autoimmune haemolytic anemia (AIHA) with cerebral venous sinus thrombosis is highlighted in this case report.

Key words: *SLE, antiphoslipid antibody syndrome, autoimmune hemolytic anaemia, cerebral venous sinus thrombosis.*

Received: 13-03-2022 *Accepted: 06-04-2022*
DOI: https://doi.org/10.3329/bjm.v33i2.59297

Citation: *Rahman A, Twinkle FQ, Hakim KM, Shapnil AA, Arko HR, Motin J et al. SLE with antiphoslipid antibody syndrome and autoimmune hemolytic anaemia presenting cerebral venous sinus thrombosis- a rare combination. Bangladesh J Medicine 2022; 33: 220-223.*

Introduction:

Thrombotic risk varies with age and the underlying disease process, with thrombosis occurring in 10 of every 40 individuals with AIHA and SLE, which is linked to the presence of cardiolipin antibodies.[1] The antiphospholipid syndrome (APS) is distinguished by recurrent arterial or venous thrombosis in the presence and persistence of antiphospholipid antibodies (aPL) identified via immunoassays or clotting tests: APS can be solitary (primary APS, PAPS) or linked with other autoimmune diseases (secondary APS), with systemic lupus erythematosus being the most frequent (SLE, lupus-related APS).[2] Autoimmune haemolytic anemia (AIHA) occurs when antibodies from the host immune system assault autologous red blood cells, as evidenced by a positive direct

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antiglobulin test (DAT), resulting in a reduction in the patient's life span and hemolysis[3]. In a prospective trial of AIHA and APLA, which were positive in 63 % of patients with a relative risk of Venous thromboembolism (VTE) of 7.5 (CI 1.25–45.2)[4], this relation was established. VTE developed in 15% of patients in this trial without the presence of APLA, implying that other risk factors were involved. As a result, we conducted an unusual case report of antiphospholipid syndrome and autoimmune haemolytic anemia (AIHA) with thrombosis of the cerebral venous sinus.

Case report:

A young girl student of 16 years was admitted to the neurology ward with the complaints of dull aching headache in the occipital region for 20 days which aggravated on bending forward or straining and associated with blurring of vision. She had also complaints of low grade fever which is documented 37.2°C without chill and rigor or night sweat. She did not give any history of seizure, sensory or motor weakness, cough, vomiting, diarrohea, head neck injury, chest pain or breathlessness. She did not give any history of oral ulcer, and joints pain or morning stiffness. But she had history of photosensitivity. Her past medical history showed that she had hypothyroidism.

On clinical examination she was mildly anaemic and had a low grade fever. She had had butterfly rashes on her face. Her colour fundoscopy showed that she had bilateral optic disc swelling (right>left) with retained visual acuity (6/6 bilaterally). Visual fields and blind spots were normal.

On laboratory investigation, her initial CBC report, were Hb (10.5 gm/dl) and RBC count ($324x10^9$/L) but subsequently CBC reports were getting progressively low (7.4 gm/dl-2.2gm/dl), platelet count ($150x10^9$/L - $90x10^9$/L) and WBC ($8x10^9$/L- $4x10^9$/ L) count and all course of the disease process her ESR was constantly high. Magnetic Resonance Imaging (MRI) axial FLAIR and T2W image showed hyperintensity along the posterior aspect of superior sagittal sinus and right sided posterior fossa venous sinus. GRE showed blooming effect along the above mentioned sinuses (Figure: 1). and Magnetic Resonance venography (MRV) of brain was done and showed thrombosis in the posterior half of superior sagittal sinus, right transverse, sigmoid and straight sinus. (Figure:2). For further evaluation full coagulation profile was done which D dimer (1.13ng/ml) and FDP (15.0 ng/ml) were high. Fibrinogen level is low. Both direct and indirect Coomb's test was positive.ANA and anti-Ds DNA were positive. Anti Cardolipin IgM (22.2u/ml) was high and Lupus anticoagulants (in which LA1 (150.50) and LA2 (47.70) and ratio 3.16 were very high) were positive. (Was Protein C. Protein S, Anti thrombin III and Homocysteine level done in this case?)

We had started her treatment with Inj Enoxaparin sodium (low molecular weight heparin) and Inj. Dexamethasone. The patient was gradually improved. But during the course of treatment she developed high grade fever for which she was treated with inj. Paracetamol and Inj, Meropenem. Later fever subsided. She also started profuse menstrual bleeding. Her hemoglobin level came down to 2.20 gm/dl ad shifted to ICU. She received 2 units of whole blood and 4 units of red cell concentration consecutively. After receiving blood transfusion her Hemoglobin level went upto 9.2 gm/dl and again shifted back to neurology ward. Over four weeks her symptoms resolved, headache and fever subsides and visual acuity returned to normal and fundal appearances settled. She was diagnosed as a cerebral venous sinus thrombosis due to SLE with antiphoslipid antibody syndrome and autoimmune hemolytic anaemia and continued treatment with rivaroxaban.(Planned duration of rivaroxaban?) She remained well on follow-up for last two months from her initial presentation.

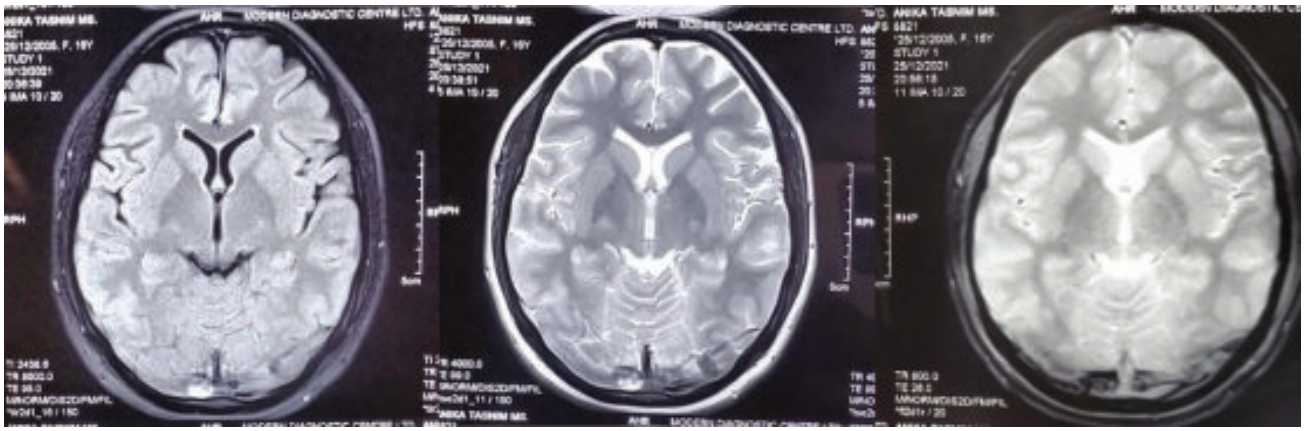

Fig.-1: *MRI axial FLAIR and T2W image showed hyperintensity along the posterior aspect of superior sagittal sinus and right sided posterior fossa venous sinus. GRE showed blooming effect along the above mentioned sinuses.*

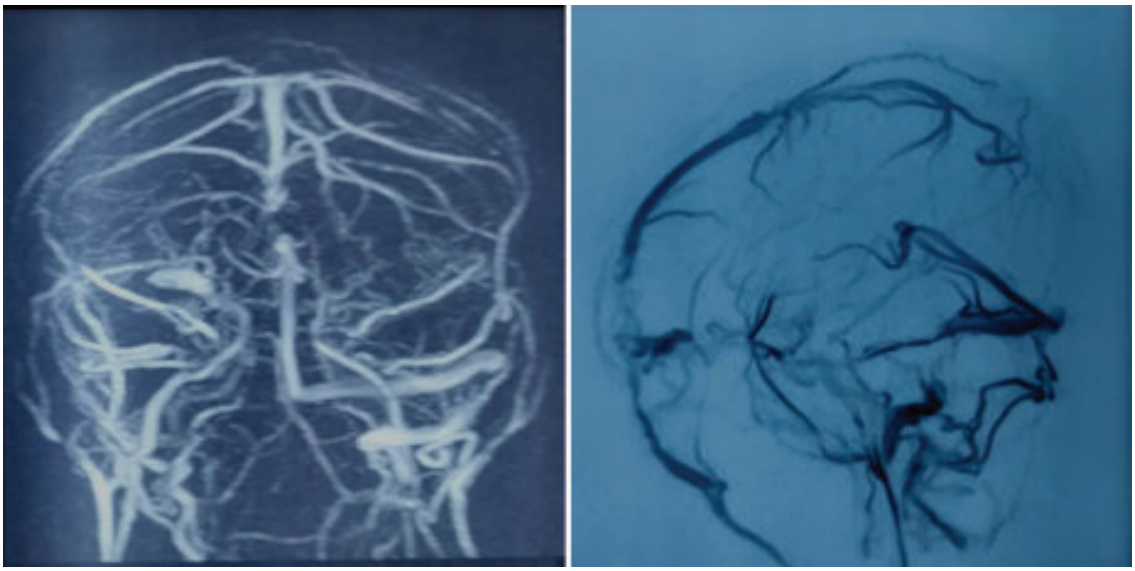

Fig.-2: *MRV of brain showed thrombosis in the posterior half of superior sagittal sinus, right transverse, sigmoid and straight sinus.*

Discussion:

Antiphospholipid Syndrome (APS) is a multisystemic disorder characterized by recurrent thrombosis in the presence of antiphospholipid (aPL) antibodies [5], with cardiac, neurological, gastrointestinal, haematologic, and dermatological symptoms. APL antibodies combined with vaso occlusive events without any underlying disease process is known as Primary Antiphospholipid Syndrome (PAPS). A secondary Antiphospholipid syndrome is defined as the presence of antiphospholipid antibodies and a vasooclusive event superimposed on an underlying condition such as SLE or cancer. Anticardiolipin antibodies, thrombosis, thrombocytopenia, and renal illness are all common in patients with autoimmune haemolytic anemia (AIHA), which is typically accompanied with secondary Antiphospholipid syndrome[6]. So we recommend that individuals with PAPS be tested for AIHA on a regular basis.

Cerebral vein thrombosis (CVT) is a thrombotic occlusion of a cerebral sinus or parenchymal vein that primarily affects young women (median age, 39; female/male ratio, 3/1).[7] It is an uncommon disease, accounting for just 0.5–1% of all stroke [8] and with a reported incidence of 1.32 per 100.000 person-years.[9] The clinical picture of a patient with CVT varies depending on where the thrombus is located.

The relationship between AIHA and PAPS isn't well understood.[5] Only a few cases of APS with AIHA have been documented to yet, but they all had an autoimmune condition in common, such as SLE, making them secondary APL syndrome.[10-12]

Our patient fulfills the criteria of APS on the basis of positive Anti Cardolipin IgM was high, and Lupus anticoagulants (in which LA1 and LA2 were extremely high) were positive positive IgG titres of ACL antibodies, positive Lupus Anticoagulants, thrombocytopenia, and the evidence of cerebral venous sinus thrombosis (CVST) in MRI and MRV of brain . In this case, there is also positive ANS and anti Ds DNA, indicating the presence of systemic lupus erythematosus (SLE). We began treating her for CVST with intravenous Enoxaparin sodium and intravenous Dexamethasone, which improved her clinical state. However, she developed a high-grade fever throughout treatment, which was managed with Inj, Meropenem, and Inj. paracetamol. She was suffering from heavy menstrual bleeding at the time of therapy. She received blood transfusion and was discharged with anticoagulant for CVST.

This patient is being monitored on a regular basis and should be checked for any signs of autoimmune disease in the future. However, if this treatment fails, corticosteroids and splenectomy are the conventional treatments for AIHA. Rituximab (anti CD chimeric monoclonal Abs) and mycophenolate mofetil, according to recent research, may be viable alternatives for treating AIHA in PAPS or AIHA with SLE.[13,14] In APS with SLE, hydroxychloroquin is utilized as a disease-modifying treatment that has an additive benefit of lowering the risk of venous thromboembolism.[15] Furthermore, hydroxychloro-

quine may be a valuable supplementary treatment in PAPS patients; nevertheless, further research is needed to assist us better manage APS in the future.

Conclusion:

This case demonstrates the significance of screening for antiphoslipid antibody syndrome and coomb's test in patients imparting with cerebral venous sinus thrombosis. In patients in whom such antibodies are recognized, clinicians have to be aware of the hazards of recurrent thrombosis.

Conflict of Interest:

The authors stated that there is no conflict of interest in this study.

Funding:

Author's No specific funding was received for this study.

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