CATASTROPHIC ANTIPHOSPHOLIPID SYNDROME:A CASE REPORT

MOHAMMAD SHAHIDUL ISLAM[1], HUMAYARA TABASSUM[2], SARAH JAHAN[3], SWADESH BARMAN[4], MOHAMMAD AL AMIN[5], AHMEDUL KABIR[6]

Abstract:
The catastrophic antiphospholipid syndrome (CAPS) is a rare, potentially divastating disorder characterized by thrombotic microangiopathy and rapidly progressive multi-organ system failure in the presence of antiphospholipid antibody. We presented a case of a 20-year-old young female patient who survived after an episode of catastrophic anti phospholipid antibody syndrome following infections and fetal loss.

Keywords: *Catastrophic Antiphospholipid Syndrome; CAPS; Thrombotic Microangiopathy;*

Introduction:

The antiphospholipid syndrome (APS) is an autoimmune hypercoaguable state characterized by vascular thromboses (arterial and/or venous) and/or pregnancy morbidity and fetal loss in the presence of antiphospholipid (apl) antibodies. Catastrophic APS (CAPS) is a rare variant of APS, which is usually life-threatening with rapid progressive multiple organ failure. Infection is the most common triggering factor. In our case, this 20-year-old young lady had H/O spontaneous abortion followed by D & C, microangiopathic hemolytic anaemia, renal impairment with proteinuria and hematuria in the presence of antiphospholipid antibody. All are favorable for a diagnosis of catastrophic antiphospho-lipid syndrome.

Case report:

A 20 - year- old lady hailing from Narayangonj admitted to Dhaka Medical College Hospital with the complaints of disorientation, irrelevant talking, restlessness for 12 hours, passage of blackish discolored loose stool, three times within last 1 day, fever for 2 days, H/O spontaneous miscarriage at 11 weeks of gestation 2 days back followed by D & C 1 day back. She was in her usual state of health before this event. It was her 1st pregnancy. At the 11 weeks of gestation, spontaneous miscarriage occurred at home. After that, she developed fever & severe colicky abdominal pain. So that, she admitted under Obstetrics Department and D& C was done on 19th January, 2013. In immediate post D & C period, her fever was ontinued. Maximum temperature was 102^{o}C F, came without chills & rigor, persisted most of the time of day and subsided after taking anti pyretic drug. At that time she passed blackish stool, three times within 12 hours. 12 hours after D & C, she became disoriented, restless and talked irrelevantly. With these conditions, she was transferred to Medicine Department for proper evaluation. On examination, patient was severely anaemic, having 102^{0} F temperatures, 120/min pulse, 100/ 70 mm Hg BP but no purpuric or bluish spot. Her GCS was 14/15 with disoriented to time, place and person. There were no signs of meningeal irritation. Her motor and sensory system was intact. Other system examination revealed normal.

Investigation reports revealed Hb % 5.9 gm/dl, WBC 1500 /mm^3; Platelet 4000/mm^3; Reticulocytes 5%. Peripheral blood film showed pancytopenia with anisocytosis, anisochromia; plenty of fragmented cells & occasional nucleated RBC and suggestive of micro-angiopathic hemolytic anemia. Serum electrolytes were normal. In Urine R/M/E, Albumin ++, Pus cell 1- 3 /HPF; RBC 4 -8 /HPF; Granular cast ++; Serum creatinine 1.7 mg/dl; SGPT was raised to 270 U/L. Chest X ray & sugar profile was normal; USG of whole abdomen showed tissue appearance of liver parenchyma is uniform but more echogenic than normal suggestive of fatty changes in liver; Mild splenomegaly; Bulky uterus; FDP 9.60 µg/ml (N: <10 µg/ml); D- Dimer 0.29 mg/l (N: <0.2 mg/l). Coombs' test (Direct & Indirect) & ANA was negative. Thyroid

1. Honorary Medical Officer, Dhaka Medical College Hospital
2. Honorary Medical Officer, Dhaka Medical College Hospital
3. Honorary Medical Officer, Dhaka Medical College Hospital
4. Honorary Medical Officer, Dhaka Medical College Hospital
5. Registrar, Internal Medicine, Dhaka Medical College Hospital
6. Associate Professor, Internal Medicine, Dhaka Medical College Hospital

function test was normal. Anti phospholipids antibody was positive (IgM & IgG) done after 17 days of admission.

Discussion:

In 1992, Prof. Ronald A. Asherson first described this type of presentation in the presence of anti phospholipid antibody and gave a striking name "catastrophic antiphospholipid syndrome"[1]. It only affects < 1 % of patients with antiphospholipid antibody[2]. As Prof. Ronald A. Asherson played an outstanding role in CAPS history, it is also known as Asherson's syndrome. The syndrome is characterized by multiple small-vessel occlusions leading to multiple organ failure and substantial morbidity and mortality. The remarkable feature of this syndrome is the presence of an acute microangiopathy, rather than the large-vessel occlusions more typically observed in patients with both primary and secondary APS[3].

Table-I

Most Common Precipitating Factors in Patients with catastrophic APS[a]

Precipitating factor	%
1. Infections:	35%
• Respiratory Tract	
• Cutaneous	
• Urinary Tract	
• Sepsis	
• Other infections	
2. Surgery, trauma and invasive procedure	13%
3. Neoplasia	8%
4. Anticoagulant withdrawal/ low INR	8%
5. Obstetric complication	6%
6. Lupus flares	5%
7. Oral contraceptives	3%
8. No factor identified	35%

[a] Percentages from a series of 80 patients [4]

Table-II

Preliminary criteria for the classification of catastrophic antiphospholipid syndrome

1. *Evidence of involvement of three or more organs, systems and/or tissues.* Usually, clinical evidence of vessel occlusions, confirmed by imaging techniques when appropriate. Renal involvement is defined by a 50% rise in serum creatinine, severe systemic hypertension (>180/100 mm Hg) and/or proteinuria (> 500 mg/24 hour)
2. Development of manifestations simultaneously or in <1 week
3. *Confirmation of small-vessel occlusion in at least one organ or tissue by histopathology.* For histopathological confirmation, significant evidence of thrombosis must be present, although vasculitis may coexist occasionally.
4. *Laboratory confirmation of the presence of antiphospholipid antibodies (aPL): lupus anticoagulant and/or anticardiolipin antibodies.* If the patient was not previously diagnosed as with an antiphospholipid syndrome (APS), the laboratory confirmation requires that aPL is detected on two or more occasions at least 6 weeks apart (not necessarily at the time of the event), according to the proposed preliminary criteria for the classification of definite APS.

Definite catastrophic APS

- All four criteria

Probable catastrophic APS

- All four criteria, except for only two organs, systems and/or tissues involvement
- All four criteria, except for the absence of laboratory confirmation at least 6 weeks apart due to the early death of a patient never tested for aPL before the catastrophic APS
- Criteria 1, 2 and 4
- Criteria 1, 3 and 4, and the development of a third event in >1 week but in <1 month, despite anticoagulation [5]

In this case, the most prominent pentad features were fever, neurological squealae, microangiopathic hemolytic anaemia, thrombocytopenia; renal impairment with proteinuria and hematuria. This type of presentation is having broad differential diagnosis includes disseminated intravascular coagulation (DIC), thrombotic thrombocytopenic purpura (TTP), hemolytic uremic syndrome (HUS), heparin induced thrombocytopenia (HIT), systemic lupus erythromatosus (SLE) and Catastrophic antiphospholipid syndrome (CAPS). Normal FDP & d-dimer are almost excludes DIC. Heparin induced thrombocytopenia was also excluded by taking history as no history of taking heparin. HUS usually occurs in children aged less than 10 years and follows haemorrhagic enteritis. Fever usually absent in this condition. Albeit urinary findings were consistent with hemolytic uremic syndrome, it rarely occurs in 20-years of age & a condition associated with fetal loss[6]. Negative ANA virtually excludes SLE. But positive antiphospholipid antibody makes a diagnosis 'catastrophic antiphospholipid syndrome'. The presence of thrombotic microangiopathy is the hallmark of CAPS [3]. But the presence of plenty schistocytes in peripheral blood make it difficult to

differentiate TTP from CAPS. There remains a possibility that, pathologically, CAPS and TTP might be a partially identical syndrome, and it has been recently suggested that a "continuum" between these conditions might exist[7]. Sepsis is the main precipitating factor in this case. This is a probable catastrophic antiphospholipid syndrome as it fulfills only 1, 2 and 4 criteria (Table 2). Unfortunately, we lost this patient in a sense that they never received our phone call after discharging from hospital.

Conclusion:

As the mortality rate is approximately 50% despite treatment, it requires high clinical awareness to prompt diagnosis this life threatening condition and to give optimal treatment.

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