

ANESTHETIC MANAGEMENT FOR CESAREAN DELIVERY IN A CASE OF AUTOIMMUNE HEMOLYTIC ANEMIA

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INTRODUCTION

Autoimmune hemolytic anemia (AIHA) is a rare group of disorders which cause hemolysis when auto antibodies react with self red blood cell (RBC) antigens.

- Chronic and relapsing condition,
 - AIHA can be exacerbated or diagnosed during pregnancy.
 - Can cause severe anemia
 - Create fragmented cells, leading to hypercoagulability and increased risk of thromboembolic events including strokes and pulmonary emboli.
 - Can also be harmful to the fetus and can lead to fetal anemia, intrauterine growth restriction (IUGR), and spontaneous abortion.
- These factors put AIHA patients at high risk in the peripartum period.

CASE BACKGROUND

- 26-year-old F, G1P0, body mass index (BMI) 43
- AIHA diagnosed 5 years prior to pregnancy
- Warm AIHA, direct antiglobulin test (DAT) negative
- Prior AIHA therapies
 - Offered splenectomy but patient declined
 - Tried second line therapies without success including intravenous immune globulin (IVIG), rituximab, sirolimus, and mycophenolate mofetil
 - Responsive to high dose steroids, maintained on prednisone 10 mg PO daily for many years
- 1 month prior to presentation, developed an episode of hemolysis in the setting of an upper respiratory tract infection, Prednisone increased to 40 mg PO daily
- Placed on Lovenox 40 mg SC daily for thromboembolic prophylaxis during pregnancy
- Admitted at 35 weeks for induction of labor in the setting of IUGR and abnormal uterine artery dopplers. Lovenox stopped prior to admission.
- Patient taken for CS due to Cat II tracings with decelerations

PATIENT PRESENTATION

• ***Pre- Op***

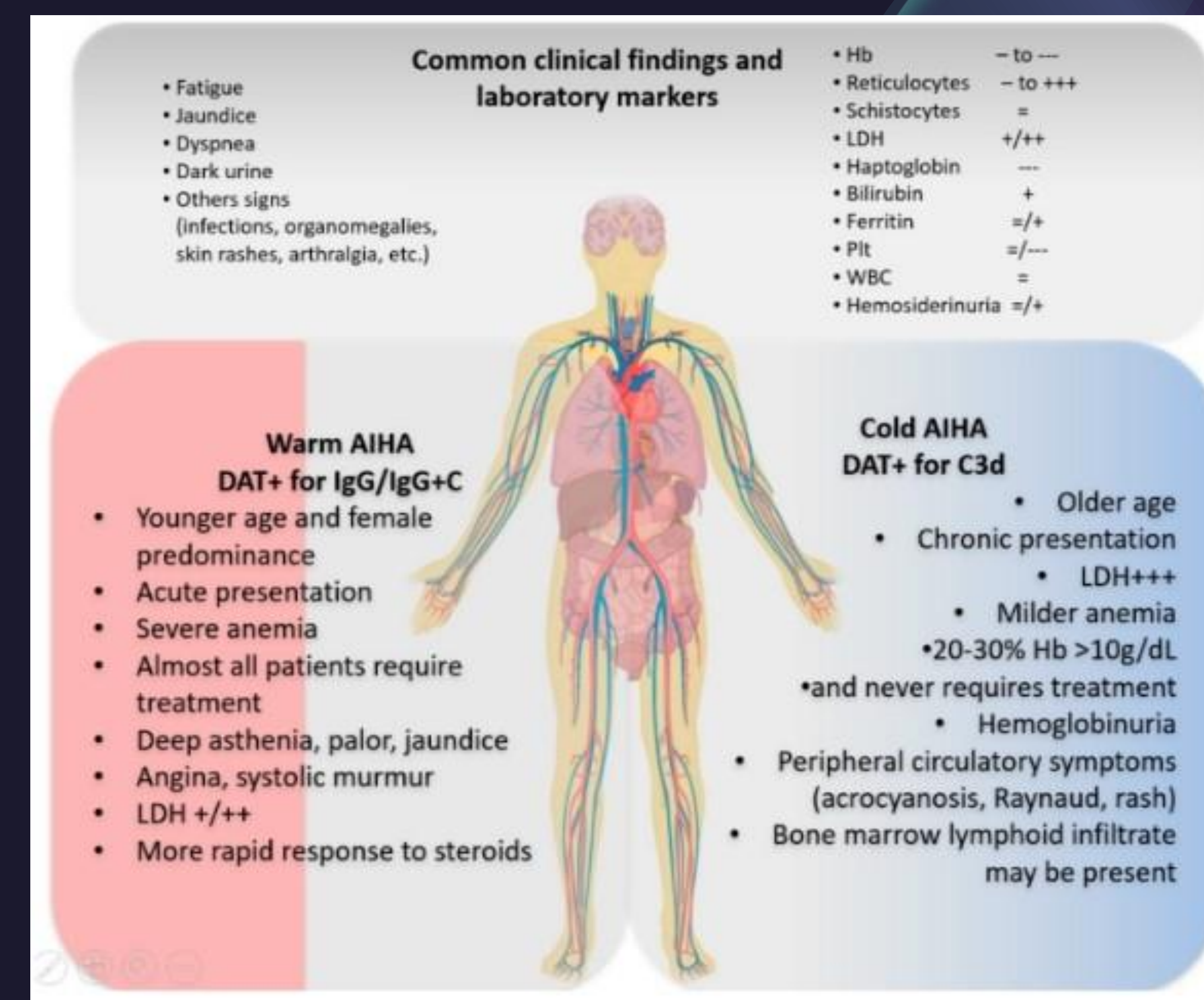
- Well-appearing, stable vital signs
- Baseline labs with stable anemia and no evidence of ongoing hemolysis
- Hb 8.9, Plt 183K, TBili 2.3, PTT 30 sec, INR 1.0, haptoglobin <10, LDH 300

Anesthetic management

- Spinal anesthesia (bupivacaine, fentanyl, morphine)
- Given 100 mg hydrocortisone IV as stress dose steroids
- Good uterine tone achieved after delivery but required 2 doses of tranexamic acid for slow bleeding

• ***Post-Op***

- Continued to have slow bleeding requiring transfusion of 2 units of PRBC
- No worsening hemolysis
- Resumed oral prednisone
- Resumed Lovenox for 6 weeks postpartum



DISCUSSION

There are very few studies discussing AIHA in the pregnant patient with little consensus on management.

Anesthetic considerations:

Subarachnoid Block was preferred for this patient as

- ***Airway risks due to pregnancy and higher BMI***
- ***Primary CS with no risk factors for adhesions***
- ***Epidural catheter was not preferred to avoid having a catheter in situ in case of hemolysis or if patient developed coagulation abnormality.***

Signs/symptoms of hemolysis:

- Pallor, jaundice, dyspnea, palpitations, chest pain, tachycardia
- Anemia, reticulocytosis, elevated LDH, decreased haptoglobin, increased bilirubin (indirect)

Chronic steroid use

- If on prolonged therapy may have HPA axis suppression, may warrant stress dosing
- IV stress dose preferred to PO (vomiting)

Transfusions in AIHA

- Up to 50% with AIHA will require peripartum transfusion
- Multiple antibodies present due to long history of transfusions. Crossmatch adequate amount of blood
- Generally safe to use ABO- and RhD- matched blood
- Blood warmer critical with cold agglutinin subtype

Thromboembolic risk

- Risk of thromboembolic events is 30%, higher likelihood in pregnancy
- Prophylactic anticoagulation recommended
- Cautious with timing of neuraxial anesthesia and anticoagulation
- Low threshold of suspicion for thromboembolic events

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