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Case Report

Resolution of Complex Refractory Autoimmune Hemolytic Anemia in Pregnancy after Five Lines of Therapy-True Multidisciplinary Approach

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Abstract

Autoimmune hemolytic anemia (AIHA) is a condition where the body's immune system destroys its own red blood cells, leading to symptoms such as fatigue, pallor, jaundice, and shortness of breath. AIHA presents a complex clinical challenge during pregnancy [1]. There is paucity of information on management of complex cases of steroid refractory AIHA. Here, we discuss a unique case of a 24-year-old primigravida who presented with anemia and jaundice at 6 weeks of gestation. Sequential therapies including steroids, IVIG, Rituximab, Cyclophosphamide, and plasma exchange proved refractory. A peri-partum splenectomy performed simultaneously with an early cesarean section at 32 weeks' gestation resulted in resolution of this patient's AIHA.

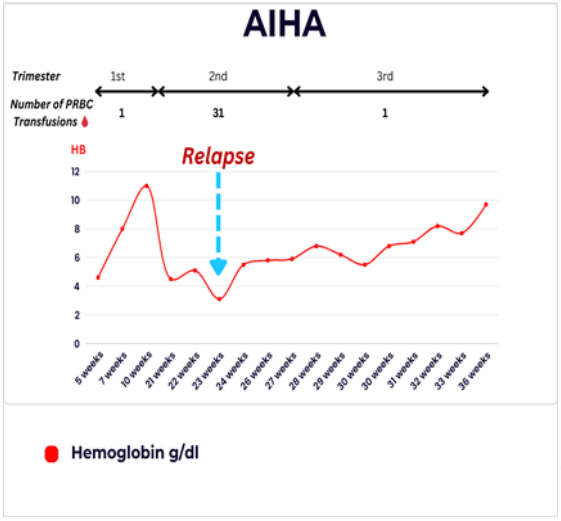
Keywords: ***AIHA, Pregnancy, Autoimmune Hemolysis, Jaundice, Anaemia, Rituximab in Pregnancy.***

Case Report

A 24-year-old pregnant female presented at 6 weeks gestation with jaundice and low hemoglobin. Subsequent tests showed a positive direct Coombs test, indicative of autoimmune hemolytic anemia (Hb 5.6, TLC 10800, PLT 2.5 L, N 82%, total bilirubin 6.6, indirect bilirubin 5.9, direct bilirubin 0.9, LDH 373, reticulocyte count 15%). The direct Coombs test indicated warm antibody IgG type AIHA. She was noted to be ANA positive. The patient initially responded well to steroids but relapsed at 18 weeks gestation, presenting with an Hb of 4.9 and a shingles rash on her waist. She developed steroid-induced hyperglycemia and was started on insulin.

Due to her relapse associated with shingles, low-dose steroids were administered but her condition worsened. Consequently, she was given washed PRBC of least incompatible IAT crossmatch blood to raise her Hb level to a minimum threshold of 7. However, the patient developed hyper hemolysis syndrome. She was then started on IVIG and the transfusion threshold was reduced to a hemoglobin level of 5. She was screened negative for the red cell alloantibody. The patient received weekly doses of Rituximab [2] for four weeks, followed by two sessions of plasma exchange and one dose of cyclophosphamide, with limited success. The objective shifted to maintaining her hemoglobin at a level of 5-7 mg/dl, with fetal growth monitored via ultrasound. Plans for intrauterine transfusions were made if severe fetal anemia was detected, but these were not needed.

By the end of 30 weeks gestation, her baseline hemoglobin increased to 7, and she became transfusion independent. Throughout the pregnancy, she received a total of 33 units of PRBC and underwent daily blood tests along with weekly ultrasounds to monitor the baby's weight. Delivery was planned by cesarean section at 32 weeks, concurrently with a splenectomy [3]. Both procedures were performed via a conventional midline incision, resulting in resolution of AIHA and improvement in hemoglobin levels. The baby was born healthy, with no signs of hemolysis or immune paresis. The patient's platelet counts increased post-splenectomy, necessitating continued anticoagulant therapy for six weeks postpartum.



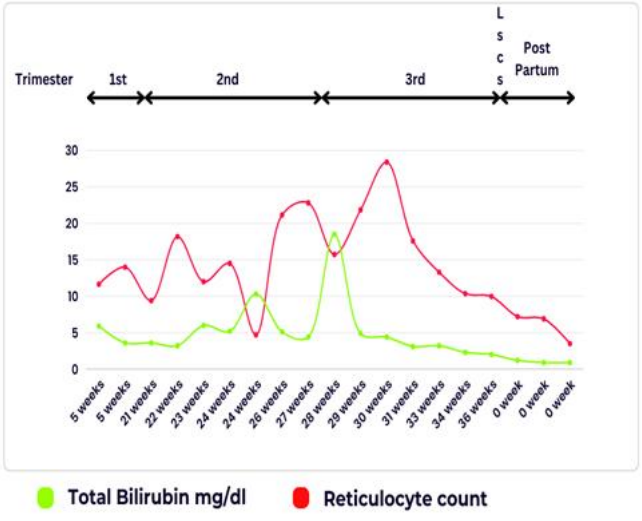


Figure 1: Hb and transfusions over pregnancy period. Figure 2 Bilirubin and retics level over Gestational period

Conclusion

This case emphasizes the importance of multidisciplinary collaboration between obstetricians, hematologists, and surgeons in optimizing patient outcomes. Additionally, it underscores the need for careful monitoring and tailored treatment strategies in pregnant patients with AIHA to minimize maternal and fetal complications [4].

Abbreviations

AIHA: Autoimmune Hemolytic Anaemia
IVIG: Intravenous Immunoglobulin
ANA: Antinuclear antibodies
TLC: Total lymphocyte count
LDH: Lactic dehydrogenase
PRBC: Packed red blood cells
Plt: Platelet count in Lakhs

Declarations

Ethical Approval and Consent to participate

Not applicable

Consent for Publication

Verbal and written given by patient.

Availability of supporting data

On hospital records

Competing Interests

None

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Self

Authors Contributions

Dr. Padmaja Lokireddy Main Author, other support on data collection, provision of graphs.

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