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Title: A Rare Case Report on Atypical Little's Antigen ('c' antigen) Isoimmunisation in Pregnancy

Introduction

- 'c' antigen isoimmunization is a common cause of severe hemolytic disease of fetus and newborn (HDFN) which develops in individuals sensitized through previous exposure.

Objectives

- To present a rare case of little c isoimmunisation in pregnancy, it's diagnosis/ management, to contribute to clinical awareness, future research and improve maternal-fetal outcomes.

Case Summary

- A 30-year Indian woman, G3P1L1A1 (previous LSCS), was registered at our institute with history of blood transfusion at 15 years.
- Patient's Blood group- AB Rh +ve (phenotype CCDee), Husband's blood group- B Rh -ve (phenotype ccdee- Kell -ve). Patient's anti- c antibody titers were measured 3-4 weekly by Column Agglutination method from 12 weeks GA.
- USG Obs Colour Doppler with MCA PSV was done twice weekly from 16 weeks.
- Due to increased IgG titers (above titer of 1:64) with reduced blood flow on doppler studies, patient was given Inj. IV Ig 1gm/kg/day.
- Elective LSCS at 37 weeks lead to a healthy full term 2.72kg female baby with cord blood sample showing total bilirubin 4.7mg/dl, DCT positive and G6PD deficiency.
- Total bilirubin raised to 13.6 mg/dl at 18hrs of life, le surface phototherapy given till Day 6 and stopped.

Wks	12	16	20	24	28	32	36
IgG	1:32	1:128	1:32	1:64	1:64	1:64	1:64
IgM	1:16	1:32	1:8	1:8	1:32	1:16	1:32

Discussion

- Patient probably developed anti 'c' antibodies due to past blood transfusion.
- Due to IVIg treatment and close doppler monitoring, severe anaemia was avoided.
- In the previous pregnancy, atypical antibody screen was not done during antenatal period. Anti- 'c' isoimmunisation was a retrospective diagnosis. This baby had prolonged NICU stay with double surface phototherapy, exchange transfusion and PCV transfusion.
- The contrast in condition and management of the neonate post delivery highlights the importance of testing for atypical antibodies routinely in antenatally.
- Invasive procedures in the antenatal period such as intrauterine blood transfusion or aggressive management of baby in neonatal period can be avoided with early detection and management of isoimmunisation

Conclusion

- Advances in maternal-fetal medicine, IVIG, Intrauterine Transfusion, noninvasive fetal genetic testing improved HDN outcomes & maternal immunization.
- Protocols for ANC screening of atypical antibodies need to be imposed

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