Platelet transfusion refractoriness in a neonate with thrombocytopenia of non immune etiology: successful outcome following Intravenous Anti D Immunoglobulin Human (Win Rho SDF)

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Background and aims:

The response to platelet transfusions (PTs) in thrombocytopenic neonates is not consistent. More ever the role of Intravenous Immunoglobulin (IVIg) and Methylprednisolone (MP) in neonatal thrombocytopenia of non immune etiology have also not been defined. We present a neonate with refractory thrombocytopenia that persisted despite PTs for 15 times and trials of IVIg and MP but resolved with Intravenous Rh anti D Immunoglobin (Win RhO).

Case Report:

We managed a 36 weeks/2.8 kg/ male neonate in our hospital from day 5 of life (Hospital day HD 1). On arrival from referral hospital the platelet count (PC) was 106000 which dropped to 18000 on HD 3. Despite IVIg and 3 platelet transfusions (PT), PC was in sub 10000 range and improved to 10000 to 20000 range with pulse MP therapy x 3 days coupled with 3 further PTs.

Refractoriness to PTs persisted with the baby needing a further 9 platelet transfusions by HD 20(5 single donor apheresis, 2 maternal) PC was 39000 on HD 21. Hence, Intravenous Rh Anti D immunoglobulin human (Win Rho SDF) 50 mcg/kg was given intravenously with informed consent of the parents.

Results:

The PC rose to 55000 on the 4th following day (HD 25) and to 112000 on HD 28 (graph 1). Detailed work up of the neonate and mother ruled out platelet immune mechanisms and other known causes of neonatal thrombocytopenia. The only probable attributable cause was acinetobacter species septicemia.

Conclusions:

Human Intravenous Rh Anti D Immunoglobulin can be successfully used in neonates with severe thrombocytopenia in whom refractoriness to PT sets in.

This is probably the first time that the use of Win Rho Anti D IVIG has been documented in the literature.

Mechanism of Anti D Immunoglobulin in Thrombocytopenia:

Opsonization of endogenous Rh_D+ RBCs with anti-D, resulting in preferential RES clearance of coated RBCs, thereby allowing antibody-coated PLTs to remain in circulation
Can be only used in Rh positive non splenectomized children and a lag period of 7 days can be expected before the therapeutic response.