of His, haemolytic anaemia, thrombocytopenia or hepatitis are noted in a minority of infants. The transient transplacental IgG antibodies are commonly anti Ro/SS-A, and sometimes anti La/SS-B.

NLE often brings to light latent or obvious autoimmune connective tissue disorder in the mother. Even if she is asymptomatic, the risk of developing systemic lupus erythematosus (SLE), subacute cutaneous lupus erythematosus or Sjogren’s disease in the future remains.

In our report two major criteria stipulated by the American College of Rheumatology i.e. the characteristic rash in the neonate and maternal antibodies to Ro-SSB were positive, confirming the diagnosis.

Literature retrieved from Pub Med database showed reports of 7 other cases of NLE following ovulation induction and IVF. Flare-up of lupus activity in women following ovulation induction is documented and rates are higher after gonadotrophins than after clomiphene therapy [3,4]. Awareness of this and its associated maternal and fetal complications will increase the safety of artificial reproductive technologies in women with SLE [5].

References

Hyperhaemolysis syndrome in haemoglobin E / beta thalassaemia responding to cyclophosphamide therapy
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Introduction

Hyperhaemolysis syndrome (HS) is a rare condition where blood transfusions are followed by destruction of both donor and recipient red cells, in the absence of significant detectable red cell antibodies. This phenomenon is reported only in a few children and is extremely rare in thalassaemia syndromes [1, 2, 3, 4]. We report a case of HS in a child with low G6PD enzyme levels and Hb E beta thalassaemia, in whom intravenous immunoglobulin (IVIG), oral methylprednisolone and splenectomy failed but cyclophosphamide therapy resulted in a successful outcome.

Case report

A 5-year old boy born to non-consanguineous parents, from a remote village in the North Central Province of Sri Lanka was found to have severe anaemia and hepatosplenomegaly at 3 ½ years of age. Haemoglobin electrophoresis showed Hb F (11%) and Hb E in the child, Hb E in the mother and elevated Hb A (6.8%) in the father.

He received four transfusions of ABO and Rh compatible non-washed red cells in the local hospital and post-transfusion Hb levels were maintained at 10-11 g/dl for ten months. Following the fourth transfusion he became jaundiced (serum bilirubin 94.5 μmol/l, indirect 75.6 μmol/l), passed dark urine (urobilinogen ++ haemosiderin +), and haemoglobin dropped to 3 g/dl. No trigger for acute haemolysis from G6PD deficiency was identifiable. He was admitted to Lady Ridgeway Children’s Hospital, Colombo where repeated blood transfusions with extended phenotypically matched leucocyte depleted red blood cells resulted in further haemolysis and reduction of haemoglobin to below pre-transfusion levels. Extensive...
haematological and serological investigations were done to
detect a cause for the accelerated haemolysis. His blood
group was confirmed as O R1R1 with a phenotype kk, JK
a+, JK b-, Fy a+, Fy b+, Ss. Antibody screening with
Selectogen test was negative for S1 and S2 repeatedly.
Direct antiglobulin test (DAT) was negative for IgG but
positive for C3d. Consecutive assay during haemolysis
found low levels of G6PD enzyme. Han’s test was
negative. A diagnosis of hyperhaemolysis syndrome was
made in this child with Hb E beta thalassaemia and G6PD
enzyme deficiency.

Immune modulation with intravenous immuno-
globulin (IVIG) at 1 mg/kg and oral methylprednisolone 2
mg/kg/d over 2 weeks [5] failed to achieve a sustained
response. Over the next year blood transfusions were
required at 2 weekly intervals but his anaemia was
uncorrected. His growth remained static. Annual red
cell consumption was 650 ml/kg and congestive heart
failure, iron overload (serum ferritin >2000 ng/ml) and
hypersplenism were observed.

A second course of immune modulation and
methylprednisolone was tried without success.
Splenectomy (spleen 18 x 12 x 5 cm, weight 650 g) also did
not correct the HS. A trial of oral cyclophosphamide at 50
mg/kg/d was prescribed for 4 days. A remarkable response
took place and post-transfusion haemoglobin of 10 g/dl
was sustained for 4 weeks. Hair loss was the only side-
effect of cyclophosphamide therapy. He has remained free
of HS with transfusion requirement at 10 to 14 week
intervals.

Discussion

This child had haemolytic anaemia of multiple
aetiologies ie. HbE/beta thalassaemia and concomitant
G6PD deficiency. Management of anaemia became very
difficult when he developed haemolysis following
compatible transfusions. Extensive haematological
investigations did not reveal any allo- or auto-antibodies.
In the absence of antibodies and C3d positivity on the
DAT the diagnosis of HS was made.

It is important to recognise this condition in which
transfusions worsen the haemolysis. The mechanism of
red cell destruction in this syndrome is not certain. A
complement mediated haemolysis due to defective
regulation of complement pathway is supported by C3d
positivity [3]. The explanations for absence of antibodies
are cell mediated antibody independent lysis, lysis within
the spleen due to tissue bound antibody and antibody
dependent cell associated cytotoxicity.

Immune modulation is recommended but the child
did not respond to IVIG and methyl prednisolone therapy
[5]. A short course of high dose cyclophosphamide
corrected HS. This therapeutic response with cyclo-
phosphamide which interferes with cell replication may
support the possibility of hyperactive macrophages
causing the haemolysis. The child did not develop
transfusion reactions in the ensuing two years. Further
studies on the place of cyclophosphamide in HS are
warranted.

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