FOETO-MATERNAL TRANSFUSION A CASE REPORT

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SYNOPSIS

This is a case report of foeto-maternal transfusion resulting in severe anaemia in the baby at birth. An elective lower segment Caesarean section was performed for previous Caesarean section for failed induction and borderline pelvis. At delivery a pale flaccid female baby with an apgar score of 4 and haemoglobin level of 3.7gm% was delivered.

The maternal blood showed a raised Kleihauer count of 10% foetal cells, a raised foetal haemoglobin of 6.7%. These values returned to normal six weeks after delivery.

INTRODUCTION

Foeto-maternal transfusion may occur sometimes during pregnancy but massive amount (more than 30 ml) occurs in only 0.3 to 0.7% cases (1).

The severity of the anaemia in the newborn depends on

i) The size of the haemorrhage
ii) The time elapsed between the haemorrhage

and the delivery. If the haemorrhage is self-limiting and took place long before the delivery, the anaema may be compensated by erythropoiesis (1, 2) by the time of delivery.

CASE REPORT

T L K a 37 year old Chinese housewife was booked for antenatal care at 32 weeks of gestation. She had a previous lower segment Caesarean section 4 years ago for failed induction and borderline pelvis. The post-operative period was uneventful.

During this second pregnancy, there was no history of antepartum bleeding or trauma to suggest the possibility of any foeto-maternal transfusion. The antenatal period was uneventful.

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At repeat elective Caesarean section at 39 weeks gestation, a pale feeble female baby weighing 2770 gm (5 lb 15 oz) was delivered. The apgar score at birth was 4.

Assessment soon after birth revealed a term infant with pallor, blood pressure of 55/30 mmHg, tachypnoea, hypotonia and hepatomegaly. Investigations revealed: Hb 3.7mg/dl; platelets 165,000; reticulocytes 7.2%; PBF no fragments; DCT negative; both mother and baby were blood group B positive; Kleihauer test done on the mother was positive with 10% foetal cells; a diagnosis of chronic haemorrhage into the mother was made and the child was treated with a packed cell transfusion; the tachypnoea and hypotonia had disappeared within 12 hours; on day 8, the Hb was 11.6gm% and another packed cell transfusion was given. The child made an uneventful recovery and was discharged on Day 12. Subsequent development has been normal and anaemia has not recurred.

Immediate postpartum examination of the maternal serum showed:-

i) a Kleihauer count of 10% foetal cells (3)
ii) a Foetal haemoglobin (Alkali Resistant Haemoglobin) of 6.7% and Hb A^2 of 2.6%
HbH inclusions body negative
iii) a raised alpha foeto-protein level of 217.6ng/ml (4)

The maternal serum six weeks after delivery showed foetal haemoglobin level of 0.9%. Hb A_2 of 2.6% (normal level 2.3 to 3.3%). Alpha foeto-protein of less than 10 ng/ml. Both mother and baby were Rhesus positive, blood group B.

DISCUSSION

This case of severe foetal anaemia as a result of foeto-maternal transfusion is a retrospective diagnosis made after the birth of the baby.

Antenatally, there was no history of antepartum bleeding or trauma to suggest the possibility of foeto-maternal transfusion. If an antenatal cardiotocograph tracing had been done, it would probably have picked up the severe foetal anaemia in the form of a sinusoidal pattern (5). This sort of tracing is believed to be due to loss of central nervous control over the foetal heart and thus represents the terminal stage of foetal distress (6, 7). In this obstetric unit, antenatal cardiotocograph is only done for the high risk cases. There are too many deliveries for antenatal cardiotocograph as a routine investigation unless more equipment can be obtained (7672 deliveries per year).

It is thought that unexplained intrauterine deaths may be the result of undiagnosed foeto-maternal transfusion. Further investigations on such cases may reveal the exact cause and effective treatment instituted.

Prompt treatment with blood transfusion by the attending paediatrician was life-saving.

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