

EXCHANGE BLOOD TRANSFUSION IN A Rh INCOMPATIBLE BABY

BY

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I am glad to report this case of exchange blood transfusion carried on successfully in an Rh incompatible baby, in our Hospital. Though a few cases were tried in other places in Calcutta previously, this is the first of its kind in this hospital.

The Rh factor, its relation to congenital hemolytic disease, its homozygosity and heterozygosity is a vast subject and many thousands of papers are written on it. So I shall not attempt to discuss it. But I do feel that when the condition is present it is a real headache for the obstetricians, both from its medical point of view and from the point of view of the suffering mothers. The usual history of these cases is repeated loss of the child after all the pains of pregnancy, making the mother a real psychological wreck. But fortunately this is a rare incidence, particularly in our country. The incidence of Rh negative Indians as worked out by different workers in Calcutta and Bombay is 3 to 10 per cent only, a rough average of 7 per cent. (Khanolkar in Bombay 3%, C. R. Das Gupta in Calcutta 10%, Grewal in Calcutta 7.5%). Giving allowances for Rh heterozygosity the percentage of erythroblastosis fetalis falls still low.

Paper read at the Seventh All-India Obstetric and Gynaecological Congress held at Calcutta in December 1952.

This case M. R. Hospital No. 7789 aged 29 years, married for 13 years, 4 previous pregnancies, first child living and 11 years old. In her three subsequent pregnancies she delivered full term living children normally all of whom developed jaundice from the second day which increased rapidly and all the babies died on 4th day. Her last child was born 2 years ago.

This time she consulted me for the first time in her 36th week of pregnancy on 27-10-1952. On examination, except for slight pallor, there was nothing abnormal. Hb. 50%, B.P. 120/80 mm. of Hg. Presentation of the child was vertex and foetal heart tone positive. Skiagraphy showed no apparent foetal abnormality.

Report of test on Rh factor:

Mother: Rh—complete 1 negative
Blood group 0

Father: Rh—positive
Blood group 0

Test for anti body—

Saline antibodies nil

Blocking antibodies present

Done by Dr. A. Sen, Provincial
Blood Bank Officer, on 3-11-52.

She was given iron by mouth and 500 mgm. of vitamin C, I.V. daily for 10 days. Arrangements were made with the Blood Bank Officer for suitable Rh-negative donor and for replacement transfusion.

The patient was confined naturally, an easy labour of 5 hours' duration on 19-11-52 at 6-40 P.M. of a living healthy female child, weighing 6 lbs. 10 oz.

The liver and spleen of the baby were of normal size. No free fluid in abdomen, no oedema.

The placenta was very large and oedematous, weighing 2 lbs. 12 oz.

Report on samples of clotted and oxalated blood collected from baby's cord:

Coomb's test—strongly positive. 0 group. Hb. 10 gm. per cent (Hellige). Icteric index of cord blood: 30. Slides showed large number of erythroblasts.

An exchange blood transfusion was given by Diamond's method through the umbilical vein. 160 c.c. of baby's blood drawn out and 210 c.c. of citrated 0 group Rh-negative blood transfused simultaneously, 18 hours after birth. A 5 c.c. of 10% calcium gluconate injection given intravenously to prevent citrate tetany and the baby was put on penicillin 50,000 units 4 hourly.

There was no reaction after transfusion and baby tolerated it well.

The baby developed jaundice before the transfusion was given and the jaundice deepened in intensity very rapidly within 12 hours of birth. Icteric index 180.

Blood examination of the baby 24 hours after transfusion.

Hb. 17 gm. % (Hellige).

Coomb's test \pm .

Daily examination of blood for Hb. done. There was a fall of Hb. percentage to 10.8 gm. per cent on 7th day. A second transfusion with 200 c.c. of Group 0 Rh-negative blood given by cubital vein on 8th day. Baby stood it well.

The daily weight chart of the baby was normal. Coomb's test became negative on 6th day and it remained so. Baby was put on mother's breasts only from 10th day.

The jaundice of the baby cleared up gradually. Examination of blood slide showed very few erythroblasts in peripheral circulation. The daily reading of Hb. percentage remained steady to 12.5—12.8 gm. per cent. General habits, appetite and sleep were normal. Icteric index on 11th day 50.

The mother with a living baby was discharged on 12th day.

The baby was followed up at home once every week. There was no fall in haemoglobin percentage and jaundice cleared up completely. The last follow up on 22.-1-1953. Hb. 12.8 gm. per cent. Coomb's test negative. Icteric index 16, weight 9 lbs., behaving like any other normal of this age.

We are indeed very happy because we could diagnose the case in time and give the psychologically traumatised mother a living baby.

My thanks to Dr. A. Sen, Officer-in-charge, Provincial Blood Bank for his ungrudging whole-hearted help.