A case of idiopathic massive fetomaternal hemorrhage

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Objective

Acute fetomaternal hemorrhage (FMH) is defined as the loss of fetal blood cells into the maternal circulation. Massive FMH greater than 150 ml can affect the outcome of the pregnancy by causing severe fetal anemia, stillbirth and neonatal death. FMH is a rare event with an incidence of 1 in 1000 pregnancies. The aetiology is poorly understood and most of the cases are idiopathic. We report a case of acute FMH at term with a good outcome.

Methods

This is a case report.

Results

We report a 24-year-old G2P1, who was admitted in the hospital at 39 weeks of gestation due to acute left backache and reduced fetal movements for the last 24h. The pregnancy had been uncomplicated till then. There was no history of bleeding, drug use or abdominal trauma. Her blood pressure was normal. Her blood type was O positive. Group B streptococcus screening culture was positive and she had a previous CS. The initial fetal heart rate tracing was non-reactive and there was a sinusoidal pattern (stable baseline of 150 bpm, minimal variability and oscillations with a frequency of 3 cycles/min and amplitude of 10 bpm) with isolated decelerations. The ultrasound examination performed immediately showed normal umbilical and middle cerebral artery pulsatility index. The amount of amniotic fluid was normal. However, an emergency Caesarian Section was performed due to suspicious CTG, which was eventually due to fetal anaemia. A very pale male infant, weighing 2710 g was delivered without oedema. The Apgar scores were 8, 8 and 8 at 1, 5 and 10 minutes, respectively. The arterial pH, haemoglobin and haematocrit at birth were 7.16, 3,9 g/dl and 13,5%, respectively. The blood type was O positive and the direct Coombs negative. The heart rate was 152 bpm and the blood pressure was 46/20 mmHg. The baby had IV fluids administrated followed by blood transfusion. Thereafter, his respiratory and circulatory function significantly improved. Seven days after the delivery the Hb was 11,8 g/dl and the haematocrit 37,1%. The cranial ultrasound was normal and he is still under regular neurological follow-ups. The Kleihauer test revealed 10% of HbF in the maternal blood, confirming the diagnosis of massive fetomaternal hemorrhage. The histological examination of the pale placenta did not reveal any evidence of a placental abruption.

Conclusion

Decreased fetal movements in combination with sinusoidal fetal heart rate pattern are strongly suggestive of acute fetal anemia. Cardiotocographic signs of fetal distress may be an indication for immediate Cesarean section. The determination of HbF cells in the maternal blood (Kleihauer Test) provides the final confirmation of fetomaternal haemorrhage. The measurement of peak systolic velocity in fetal MCA (MCA-PSV) can provide additional information for the diagnosis of fetal anemia especially in compensated fetuses and those who are at risk of prematurity and may need cordocentisis and intrauterine blood transfusion. Systolic peak velocity in fetal MCA should be a part of any algorithm used for the investigation and management of decreased fetal movements. In case of suspicion of acute FMH, collaboration between the obstetricians and the pediatricians is crucial, as early transfusion may be needed in cases of a hypovolemic shock. The long term effects of hypoxia on the fetal brain in massive FMH remain largely unknown according to the current follow-up data.