

The role of antenatal corticosteroid in an extremely preterm fetus with reversed end diastolic flow velocity in umbilical artery

Sir,

Reversed end diastolic flow velocity (REDFV) in the umbilical artery on Doppler examination is a dangerous finding as it is associated with a high perinatal mortality rate of up to 50% or more.¹ Often, when diagnosis of REDFV is made, it is uncertain for how long it has been present. Although it is an ominous sign, it is believed that there is an important benefit to be gained by delaying delivery by 24-48 hours, for the effect of corticosteroid therapy.² The fetus should be monitored intensively during the waiting period and delivered if fetal distress develops. Vossbeck et al showed that there is an increased incidence of chronic lung disease, impaired intestinal motility, and retinopathy of prematurity in infants born before 30 weeks of gestation, with absent or REDFV in the umbilical artery.³ This can be reduced to some extent by antenatal steroids and intense management of the newborn. We report the successful outcome of an extremely preterm fetus with REDFV in umbilical artery at 27 weeks gestation, whose delivery was delayed for 48 hours for maternal corticosteroid administration.

A 23-year-old woman gravida 4, para 0, with 3 previous abortions, at 27 weeks gestation was referred to our hospital from a regional hospital with severe intrauterine growth retardation. Her past obstetric history includes 2 missed abortions at 16 weeks and another spontaneous abortion at 6 weeks of gestation. During this pregnancy she was booked for antenatal care at 7 weeks of gestation; had regular follow up with serial ultrasound scans which were corresponding with dates until 15 weeks. An ultrasound scan at 24 weeks showed that all fetal parameters were lagging behind by 5 weeks. Ultrasonography on admission showed biparietal diameter corresponding to 23 weeks, femur length 21 weeks and abdominal circumference 20 weeks. No fetal anomalies were detected. Biophysical profile was good with an estimated fetal weight of 500 to 600 grams. Doppler ultrasound of umbilical artery showed REDFV. Non stress test was satisfactory for the gestational age and the fetal movements were good. Two doses of injection dexamethazone were given. A repeat Doppler after 48 hours showed the same findings. Poor prognosis for the fetus was explained to the couple and proceeded for cesarean section. Lower segment transverse cesarean was carried out and a baby girl delivered as footling

breech without difficulty, weighing 570 grams. Apgar scores were 5 at one minute and 8 at 5 minutes. The baby was intubated, ventilated and transferred to special care baby unit. Placenta was adherent to the uterus, weight 204 grams with multiple infarcts. Umbilical cord showed 3 vessels. Histopathological examination of the placenta showed subchorionic infarcts, umbilical cord with normal structure and no evidence of chorioamnionitis. Blood loss during cesarean was 500 mls. Postoperative period was uneventful and the patient was discharged on the 6th day. The baby received 2 doses of surfactant by endotracheal tube, required inotropic support for 48 hours to maintain blood pressure. She had a stormy course in the first 2 weeks of life. Hydrocortisone treatment was given to prevent adrenal insufficiency that may lead to chronic lung disease. She was ventilated for 10 days and received nasal continuous positive airway pressure (CPAP) until day 40 of life and was off oxygen at 43 days of life. Her serial cranial ultrasound scans were normal and eye examination showed retinopathy of prematurity stage II, which regressed on follow-up examination. She remained extremely well and was discharged at the age of 72 days with a weight of 2200 grams. On follow-up at one year she continued doing well neurologically and in her growth parameters. The successful outcome of this baby suggests that, although REDFV is regarded as a sign of severe fetal decompensation, immediate delivery is not always necessary. There may be time for maternal corticosteroid administration provided the cardiocotograph does not show signs of fetal distress.

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