

Editorial

Twin Delivery an Obstetrician's Dilemma

Twin pregnancy is not only a high risk pregnancy but also a high risk delivery, especially so for the second of the twin. Hence timing and mode of twin delivery are the two critical issues to be addressed very carefully by every obstetrician for a safe and healthy maternal and perinatal outcome ¹.

Spontaneous preterm birth complicates over 50% of twin pregnancies, thus scheduling the timing of delivery is not subject to the discretion of the obstetrician in most cases. For the normal uncomplicated diamniotic twin pregnancies, it is best to deliver between 38 and 40 weeks of gestation. Epidemiological evidence suggests that the lowest rate of perinatal mortality occurs at an earlier gestational age and at lower birth weight in twins than in singleton pregnancy ².

The potential for neonatal respiratory problems is particularly important when considering the optimal timing of delivery of twins, since many of these pregnancies are delivered by cesarean section prior to the onset of labour. In a series of twin deliveries by the vaginal abdominal route the prevalence of respiratory morbidity at 36 to 37 weeks was 23% compared to 7% at 37 to 38 weeks ³.

In monoamniotic twin pregnancy, delivery earlier in the third trimester may be indicated because of the high rate of perinatal mortality (30 – 70%) described in these pregnancies, despite intensive foetal surveillance ⁴.

The two main factors which determine the mode of delivery of twins is the foetal presentation and the estimated weights of the individual fetuses. In general, when the first twin is non-vertex (breech or transverse lie) the recommended mode of delivery is cesarean section. The safety of vaginal delivery is not established and there is a small but distinct possibility of locked twins if the presenting twin is in breech presentation ⁵.

When the first twin is vertex and the second twin is non-vertex, decision making is less clear. Though the Term Breech Trial favours planned cesarean delivery over planned vaginal delivery for breech presentation, its results in reducing perinatal morbidity may not be applicable to the second twin ⁶. When the estimated weight of the second twin is < 1500 gms, there is definite benefit from avoiding a vaginal delivery; in fact cesarean delivery may decrease the risk of intracranial hemorrhages in very low birth weight preterm twin fetuses regardless of presentations ⁷. The benefit of an elective cesarean section may be limited when birth weights are over 1500 gms. In this situations a trial of vaginal delivery may be considered. When the first twin has been delivered vaginally and the second twin is in breech / transverse lie, attempts at external cephalic version should be made at this stage, if there is enough amniotic fluid and the foetal condition permits. Ultrasound guidance should be available during the process. If external cephalic version is not possible or not feasible, the second twin may be delivered by assisted breech delivery or breech extraction. In a situation where the second foetus lies transversely and is not amenable to be turned to vertex or breech, one may consider internal podalic version. This would be most appropriate when the second twin is previable, malformed or dead. When internal podalic version is not possible or deemed to be dangerous for the perinatal outcome of the second twin, one may have to resort to cesarean section for the second twin.

When vaginal birth is attempted, the facility for immediate caesarean section is important in the event of complications necessitating urgent delivery (eg. prolapsed cord, heart rate decelerations or failed cephalic version) emergency caesarean section has been reported in 10 to 30 patients twin pregnancies, where vaginal delivery has been planned. A population based cohort study of twin deliveries in United States showed

that 95% of second of the twin was delivered by caesarean section after vaginal birth of the first twin ⁸.

However a prolonged interval between delivery of the first and second twin was also thought to be associated with poorer outcomes. Intervals of less than 25- 30 mins, were advocated and manoeuvres such as interval podalic version or breech extraction of the second twin were often recommended to hasten delivery ⁹.

There is also sufficient data to establish the safety of attempting vaginal birth of twins after a previous lower segment caesarean section. One of the largest series reported uterine rupture in 16 of 1850 women with twins (0.9%) undergoing trial of vaginal delivery after previous caesarean section, this rate of rupture uterus was compared to that in single term pregnancies undergoing trial of vaginal delivery (0.8%)¹⁰.

Last but not the least one must not forget the complex problem of intrauterine death of one twin. Foetal death after 17 weeks of gestation increases the risk of intrauterine growth retardation, preterm labour preeclampsia and perinatal mortality. Once a diagnosis is verified there is considerable pressure on the patient, the family and the medical team even more so because it is impossible to predict all the major fetal complications. Following death of one twin the risk of monochorionic and dichorionic co-twin demise was 12% (95% CI 7-11) and 4% (95% CI 2-7) respectively. A multicentric study from 632 centers revealed that the risk of neurological abnormality to the surviving monochorionic and dichorionic co twin was 18% (95%CI11-26)and 1% (95%CI 0-7) respectively. The risk of preterm delivery was 68% (95%CI56-78) and 57% (95%CI34-77) respectively ¹¹. Morbidity and mortality in the surviving twin approaches 50% when twin to twin transfusion is present. Major morbidity is unlikely to occur in the surviving twin of dichorionic gestation. Antenatal necrosis of the cerebral matter caused by hypoxic ischemic lesions of the white matter resulting in multicystic encephalomalasia, has been associated with presence of intrauterine fetal death of co-twin, artery to artery, and vein to vein anastomosis. However vein to vein anastomosis has the strongest association with antenatal necrosis of the cerebral white matter in affected twin pregnancies ¹².

Hence all said & done, accurate decision making regarding the timing and mode of delivery in twins pregnancies has and will always remain a dilemma for the most astute obstetrician .

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