Controversies in management of multiple pregnancy

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Introduction
Twin pregnancies are at increased risk of complications than singletons. These complications can develop throughout gestation and pose greater risk to both mother and babies. Early pregnancy scanning enables accurate pregnancy dating, determination of chorionicity, labelling and possible risk prediction in monochorionic twin pregnancies. This article focuses mainly on controversies in screening and prevention of preterm labour (PTL), fetal growth restriction (FGR) and preeclampsia in multiple pregnancy.

Preterm labour
Twin pregnancies are more likely to be delivered preterm than singleton pregnancies. More than 50% of twins and almost all triplets are born before 37 weeks of gestation and about 15-20% of admissions to neonatal units are associated with preterm twins and triplets. In 2006, of the 137,085 twins delivered in the United States, approximately 60% were preterm and weighed <2500g. Preterm birth can be following preterm prelabour rupture of membranes (pPROM), medically indicated/iatrogenic preterm birth and birth following spontaneous onset of preterm labour without pPROM. Schaff et al. revealed that the commonest aetiology for preterm birth in twins was due to spontaneous onset preterm labour without pPROM. Cervical length, cervico-vaginal fibronectin test, additional antenatal care, obstetric history and composite measures are recognised methods of screening in preterm births in singletons. It has become apparent that in singleton pregnancies, cervical length screening between 19 and 24 weeks and progesterone prophylaxis in women with a short cervix would reduce the incidence of preterm birth before 33 weeks by 45%.

There is evidence that a short cervical length, especially less than 15 mm, at 22-24 weeks of gestation in twin pregnancies is a good predictor of preterm birth up to 32 weeks of gestation. However, a short cervix was not predictive of birth before 37 weeks. To et al. carried out a study of cervical length measurement in twins between 22 and 24 weeks’ gestation and reported that the risk of delivery before 32 weeks’ gestation was strongly associated with cervical length. Using cut-offs of <25 mm, <20 mm and <15 mm, the respective detection rates of spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively. There is also evidence that a cervical length less than 25 mm measured at 14-20 weeks in triplet pregnancies is associated with spontaneous preterm birth before 32 weeks’ gestation were 35%, 49% and 67% respectively.

Fetal growth restriction
Under normal circumstances, twins grow at the same rate as singletons up to at least 32 weeks’ gestation, regardless of chorionicity. After 32 weeks’ gestation, studies described slower rates of growth for twins. The decreased rate may be related to reduce intrauterine physical space or uteroplacental insufficiency. The assessment of fetal growth is an essential component of good antenatal care. Symphysio-fundal distance (SFD) measurement is inappropriate for growth monitoring in multiple pregnancies. Ultrasound biometry is now standard for growth assessment in multiple pregnancies. Similar to singleton pregnancies, the aetiology for fetal growth restriction (FGR) in DC twins can be diverse and includes uteroplacental insufficiency, infection, genetic/chromosomal problems, fetal anatomical anomalies, placental and cord abnormalities, maternal complications such as chronic hypertension and pregnancy-induced hypertension.
Although FGR can coexist with growth discordance, the latter does not necessarily imply the former. Growth discordance can be a marker for FGR. It is important to note that FGR can also affect both twins, leading to both twins being small but not discordant.

Growth discordance is a unique complication of twin gestations and can be defined in three ways. First, the 'absolute definition' only considers the birthweight difference between the smaller and the larger twin. This definition assigns the same degree of discordance to a twin pair of 3000/2500 g and another pair of 1500/1000 g. The second definition is the 'percent definition', in which birthweight disparity is calculated as a percentage of the larger infant. The third definition is 'statistically derived' in which birthweight differences are expressed either in terms of 95th percentile or in standard deviations from a predefined mean of twin birthweights. However, population-based data in a large series of twin births has revealed that birthweight discordance does not have a normal (Gaussian) distribution and thus central measures like the mean and standard deviation do not describe the situation appropriately. Fetal growth in DC twins is normally assessed every four weeks by ultrasound biometry. In case of severe growth discordance with extreme prematurity, delivery can be delayed till viability of the larger infant. The third definition is 'statistically derived' in which birthweight differences are expressed either in terms of 95th percentile or in standard deviations from a predefined mean of twin birthweights. However, population-based data in a large series of twin births has revealed that birthweight discordance does not have a normal (Gaussian) distribution and thus central measures like the mean and standard deviation do not describe the situation appropriately. Fetal growth in DC twins is normally assessed every four weeks by ultrasound biometry. In case of severe growth discordance with extreme prematurity, delivery can be delayed till viability to give the maximum benefit to the healthy twin. The healthy twin should not be compromised in the event of a co-twin death, as they have two different placental vascular systems.

In a large study including more than 2,000 twin pregnancies, D’Antonio et al demonstrated that perinatal loss in twins with a birth weight discordance of more than 25% was significantly greater (60.9 per 1,000 fetuses) compared to those with a discordance less than 25% (8.6 per 1,000 fetuses). Their analysis further demonstrated that birth weight discordance and gestational age, but not chorionicity and individual fetal size percentile, were the only independent predictors of perinatal mortality in twin pregnancies.

It is now recommended not to use abdominal palpation or symphysiofundal height measurements to predict intrauterine growth restriction in twin or triplet pregnancies and ultrasound fetal biometry should be used four weekly to assess fetal growth and it should be plotted from 28 weeks. Furthermore, it is appropriate to estimate fetal weight discordance using two or more biometric parameters at each ultrasound scan from 20 weeks. Estimated fetal weight discordance >25% should be considered significant in twins or triplets as it is a clinically important indicator of intratueine growth restriction and offer referral to a tertiary level fetal medicine centre. Routine measurement of umbilical artery Doppler ultrasound alone to monitor intratueine growth restriction or birthweight in twin or triplet pregnancies is not recommended.

**Preeclampsia**

Preeclampsia is a significant cause of maternal morbidity and mortality. Twin and triplet pregnancies are associated with an increased risk of pregnancy induced hypertension and women with twin pregnancies have a threefold higher risk of developing hypertension during pregnancy than women with singleton pregnancies. Combination of maternal characteristics, uterine artery Doppler studies and maternal serum biochemistry has been used to screen preeclampsia in singleton pregnancies. Screening for hypertension in twin and triplet pregnancies is not convincing as in singletons. Uterine artery Doppler (particularly pulsatility index more than 95th centile) in twins shows high negative predictive value and this could be used to exclude the risk. Since it is not sensitive enough to predict preeclampsia, its routine use is not recommended. Multiple pregnancy carries a moderate risk of preeclampsia. Therefore, it is recommended to start low dose aspirin to all twins and triplets who have any of the other moderate risk factors for preeclampsia (first pregnancy, age 40 years or older, pregnancy interval of more than 10 years, BMI of 35 kg/m² or more at first visit, or family history of preeclampsia).

**REFERENCES**


