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## Best Practice & Research Clinical Obstetrics and Gynaecology

journal homepage: [www.elsevier.com/locate/bpobgyn](http://www.elsevier.com/locate/bpobgyn)



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### Growth discordance



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#### Keywords:

growth  
discordance  
monochorionic  
dichorionic  
twin  
pregnancy

Poor growth is a common problem in twin pregnancies, and management poses some unique challenges as the wellbeing of both twins have to be taken into account at all times. The decision to deliver the twins to prevent an intrauterine demise of the growth-restricted twin will, therefore, depends on the chances of intact postnatal survival of both twins. In monochorionic twins, management is complicated further by the fact that the wellbeing of one twin critically depends on that of the other twin because of the shared circulation. In the event of demise of the growth-restricted twin, the larger twin may also die or sustain brain damage because of an acute exsanguination into the feto-placental unit of its demised co-twin. In the pre-viable period, invasive fetal therapy may, therefore, be indicated to protect the appropriately growing twin.

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#### Introduction

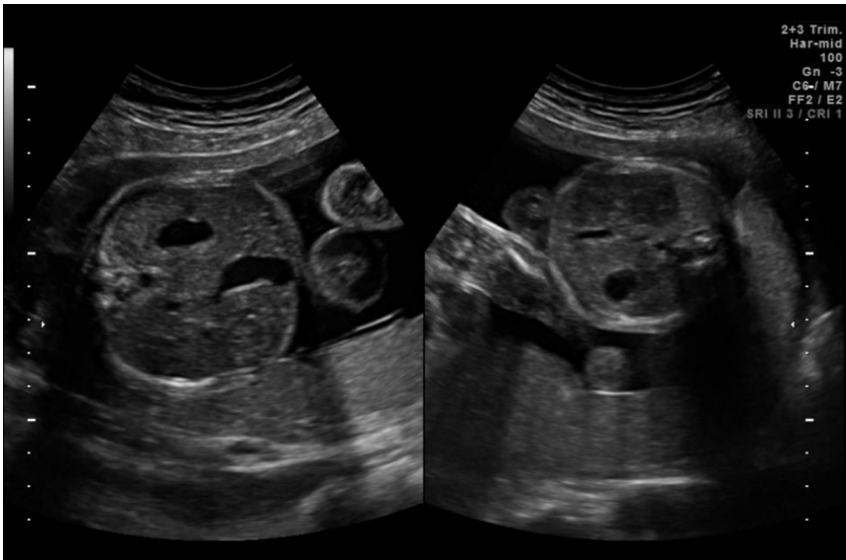
Twin pregnancies are more commonly affected by poor growth, as the human uterus is less capable of fulfilling the requirements of more than one fetus. As such, one in four twins is born small for dates (birthweight below the 10th percentile according to singleton nomograms) [1]. Up to 32 weeks' gestation, growth curves for twins are similar to those of singletons, at which point the growth velocity begins to slow down [2,3]. In twins, the average birth weight crosses the 10th centile at 38 weeks,

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which implies that all twins born at 38 weeks will be on average growth restricted according to singleton standards. Some investigators consider this growth restriction physiological, and advocate the use of twin-specific nomograms to better predict intrauterine demise [4]. The use of twin-specific standards, however, has so far failed to gain widespread acceptance for fear of creating a false sense of security that it is normal for a twin to be small.

Ultrasound scanning plays an indispensable role in the diagnosis and management of poor growth in a twin pregnancy. At first, an accurate pregnancy dating and knowledge of chorionicity are mandatory, and both must be established on the first-trimester ultrasound scan. Growth in a twin pregnancy may be described in two ways: the estimated fetal weight of each individual twin and the discordance in estimated fetal weight between the twins. Discordant growth is determined as  $(A - B) \times 100/A$ , where A is the weight of the larger and B is the weight of the smaller twin. In each pair of growth-discordant twins, the larger usually grows appropriately, whereas the smaller twin eventually becomes growth restricted. The average growth discordance in monochorionic as well as dichorionic twin pregnancies is 10%. The threshold for clinically relevant discordant growth is set at a difference in estimated fetal weight of more than 25%, which affects about 10% of twin pregnancies and is as common in monochorionic as in dichorionic twins [5]. Although gestational age at birth and birthweight are the most important predictors of postnatal outcome, discordant growth is also independently associated with adverse outcome [6]. As such, even if both twins are appropriately grown, discordant growth confers an added risk, especially if it concerns a monochorionic twin pregnancy [7]. Antenatal factors identified as having an association with discordant growth are a peripheral cord insertion in one twin [2], monochorionicity [8], sex-discordant twins [9], nulliparity [10], and assisted conception [11]. Although discordant growth affects monochorionic and dichorionic twins equally, the risk of adverse perinatal outcome is higher for monochorionic than for dichorionic twins at every level of discordance [6]. Also, monochorionic twins are more commonly small for dates than their dichorionic counterparts [12], revealing that having to share a single placenta is a disadvantage.

The antenatal detection of severe discordant growth by ultrasound scan is far from ideal, with sensitivities varying between 23 and 61% [13]. The difference in abdominal circumference rather than the actual estimated fetal weight may be a better estimate to assess discordant growth. As such, a ratio of larger and smaller abdomen circumference of more than 1.3 seems a more accurate predictor of discordant growth [14]. Also, it is helpful to put the two images of both abdominal circumferences



**Fig. 1.** Ultrasound image of the abdominal circumferences of both twins put next to one another to show important discordant growth (44%).

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