Delivery of the Second Twin
Revisiting the Age-Old Dilemma

There is general consensus that cesarean delivery is the optimal mode of delivery for women with a nonvertex-presenting twin and that a trial of labor is reasonable in women with vertex–vertex twins. However, the management of twin pregnancies complicated by a nonvertex second twin remains controversial. With the rise in the twin birth rate, obstetricians are faced with this clinical situation with increasing frequency.

The article titled “Active Second-Stage Management in Twin Deliveries Undergoing Planned Vaginal Delivery in a U.S. Population” by Fox et al. (see p. 229) presents a retrospective cohort study evaluating the outcomes of 287 consecutive twin pregnancies with a cephalic-presenting twin delivered at a single U.S. institution over a 4-year study period. All cases were subject to a management protocol that included the routine use of regional anesthesia, continuous intrapartum fetal heart rate monitoring, and delivery in an operating room to allow for emergent cesarean delivery if necessary. All obstetricians were said to be skilled in breech extraction, internal podalic version, and operative vaginal deliveries. When the outcomes of those undergoing planned cesarean delivery were compared with the outcomes of those undergoing planned trial of labor with active management of the second stage, the authors found no difference in the neonatal outcome variables they studied. Their conclusions are in concert with a recent single-center cohort study of 758 cases from France in which composite neonatal morbidity among twins delivered vaginally at greater than 35 weeks did not differ from composite neonatal morbidity of those delivered by planned cesarean.

The outcomes of these single-center studies differ significantly from those described in several larger population-based epidemiologic studies. In two series involving a total of more than 9,500 twin pairs, vaginally delivered second twins were noted to face a significantly increased risk of perinatal morbidity and mortality owing to intrapartum hypoxia compared with first-born twins. These findings prompted some to recommend a liberal policy of cesarean delivery for twin gestations. Assuming causality, Armson et al suggest that 33 cesarean births would be required to prevent one case of composite adverse neonatal morbidity, and the data from Smith et al suggest that 264 cesarean deliveries would be required to prevent one perinatal death. The conclusions of these studies, however, must be interpreted with caution. In contrast to the single-center studies, which describe protocols of management that include the use of continuous intrapartum fetal monitoring and regional anesthesia, epidemiologic studies provide no information regarding important specifics of intrapartum management. Institutions with less availability of anesthesia or less experience with emergent deliveries may face an increased incidence of adverse outcomes, and the number needed to treat to prevent one adverse event in one hospital may not be generalizable to another.
Vaginal delivery of second twins requires skill in breech extraction, operative vaginal delivery, and—optimally—internal podalic version. Schmitz et al report that more than 50% of the cephalic second twins in their series were delivered by breech extraction after internal podalic version, and they say that “the junior obstetrician” performed the delivery of the second twin “under direct supervision of the senior obstetrician.” In contrast, Fox and colleagues do not report the proportion of breech extractions that were preceded by internal podalic version, and they state that, although “housestaff were involved in many deliveries,” they never functioned “as the primary operator.” If future generations of obstetricians are not trained in the maneuvers necessary to actively manage many second-twin deliveries, the national twin cesarean delivery rate—which currently is said to exceed 70%—is unlikely to decrease.

Schmitz et al state that, in the absence of other contraindications to a trial of labor, vaginal delivery was recommended to all women with a cephalic-presenting twin, a clinically adequate pelvis, no prior cesarean delivery, and an estimated fetal weight of the second twin that was less than 25% larger than that of the presenting twin. In contrast, Fox et al say that they “routinely offer [emphasis added] women with twin pregnancies without contraindications to labor the option of labor and active management of the second stage...” and do “not attempt to dissuade a patient from choosing an elective cesarean delivery.” They did not state, however, when and why one mode of delivery was recommended over another. Their data indicate that more than 50% of patients underwent planned cesarean delivery and that those women were older and delivered at earlier gestational ages than did those undergoing trial of labor. These factors may have influenced their decision making, but further details regarding the counseling provided to this cohort are not described.

Until the results of the ongoing international, multicenter, randomized Twin Birth Study are available in 2011 (personal communication, J.F. Barrett, 2009), the mode of delivery of each twin gestation should be determined on an individual basis after objective evaluation of the case characteristics, clinical setting, and operator experience. The data reported this month by Fox et al add to existing evidence demonstrating that it is reasonable to recommend vaginal delivery and active management of the second stage for pregnancies with a cephalic-presenting twin and no other contraindication to labor. However, it must be noted that the favorable outcomes reported were achieved in the setting of continuous fetal monitoring, routine use of regional anesthesia, immediate availability of an operating room for emergent cesarean delivery, and attendance of an obstetrician skilled in the requisite maneuvers needed for the delivery of a nonvertex or unengaged second twin. If these conditions are met, it is reasonable to recommend vaginal delivery. In the absence of those components, however, cesarean delivery should be recommended. Finally, obstetricians skilled in internal podalic version, breech extraction, and operative vaginal deliveries are urged to make every effort to train the next generation of obstetricians; without this, active management of the second stage in twin deliveries will, and should, be gradually eliminated from clinical practice.

REFERENCES