

Mode of Delivery and Maternal Morbidity with Twin Pregnancies

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Objective: To evaluate maternal morbidity with twin deliveries according to delivery method.

Methods: We assembled a 5-year retrospective cohort of women delivering viable, vertex-presenting twins beyond 32 weeks gestation, with no labor contraindication or prior uterine scar. Measures of maternal morbidity were compared between those attempting a trial of labor (TOL) and those choosing an elective Cesarean delivery (ECD). We further examined morbidity with regards to actual mode of delivery and management of the second stage of labor.

Results: 716 qualifying deliveries occurred during the study period with 367 (51%) delivered by ECD and 349 (49%) attempting TOL. Compared to those electing CD, women attempting TOL were younger (median 33 vs. 34 years, $p=.001$), and more often were parous (46% v. 25%, $P<.01$) and non-white ethnicity (32% v. 25%, $p=.04$), conceived spontaneously (50% v. 30%, $p<.01$), had a vertex-presenting second twin (85% v. 30%, $p<.01$), and developed spontaneous labor (36% v. 26%, $p<.01$). Within the TOL group, deliveries were 72% vaginal, 18% cesarean, and 10% combined cesarean and vaginal. Parity (53% v. 26%, $p<0.0001$), nonvertex presentation of the second twin at admission (18% v. 8%, $p=0.02$), and admission dilation > 3 cm (57% v. 42%, $p<0.01$) predicted vaginal delivery in the TOL group.

The TOL group had higher rates of postpartum hemorrhage (PPH) (12% v. 7%, $p < 0.01$), transfusion (9% v. 5%, $p=0.05$) and infection (10% v. 5%, $p<0.01$), with more postpartum endometritis (10% v. 4%, $p<0.01$). When compared to the ECD group, those having any intrapartum cesarean (ICD) had higher rates of PPH (16% v. 7%, $p<.01$) and infection (18% v. 5%, $p = .01$), while those with a VB did not significantly differ from the ECD group on these measures (11% PPH and 7% infection, $p>.05$ for both). Rates of high order perineal and cervical lacerations were higher in both the ICD group (2% v. 0% in the ECD group, $p=.04$) and VB group (4% v. 0%, $p<.01$).

Conclusions: Although patients undergoing TOL had favorable predictors of vaginal delivery, with younger age, higher parity, and more spontaneous labor, rates of hemorrhage and infection were higher in this group than in those choosing ECD. Morbidity reduction should focus on intrapartum Cesarean delivery, particularly the high observed rate of combined delivery.