

Effect of availability of fetal ECG monitoring on operative deliveries.

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OBJECTIVE: The objective of our study was to test the hypothesis that the availability and selective use of STAN in conjunction with cardiotocography for intrapartum monitoring, lowers the incidence of operative deliveries for fetal distress.

DESIGN: Observational study.

SETTING: Delivery suite of the National University Hospital, Singapore.

METHODS: The data regarding intrapartum cesarean sections and instrumental vaginal deliveries for presumed fetal distress and the condition of the neonate at birth (Apgar scores at one and five minutes and admission to neonatal intensive care unit (NICU) were collected over two consecutive three-year periods. In the first triennium, only external cardiotocography was used for intrapartum fetal surveillance and in the second triennium STAN monitoring was available for use in the delivery suite.

RESULTS: With the availability and selective use of STAN monitoring, there was a significant decrease in the number of instrumental deliveries for fetal distress (from 66 out of 520 (0.9%) to 36 out of 474 (0.5%), $p < 0.025$), the number of admissions to the NICU (from 418 (5.6%) to 311 (4.6%), $p < 0.01$) and the number of neonates with Apgar score of seven or less at five minutes (from 192 (2.6%), $p < 0.001$ to 113 (1.7%), $p < 0.001$). There was no significant difference in the incidence of emergency cesarean sections for fetal distress during the two time periods.

CONCLUSION: Intrapartum monitoring of term fetuses with cardiotocography combined with selective use of ST analysis leads to a significant reduction in the number of operative deliveries for suspected fetal distress with no adverse effect on neonatal outcome.