Association of Catastrophic Neonatal Outcomes With Increased Rate of Subsequent Cesarean Deliveries

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Created 4/3/2017
By Ikaplan April 3, 2017

Dan, Ohad, Hochner-Celnikier Drorith, Solnica Amy RN, and Loewenstein Yonatan. 2017.

Abstract:

OBJECTIVE: To evaluate whether full-term deliveries resulting in neonates diagnosed with hypoxic-ischemic encephalopathy are associated with a significant increase in the rate of subsequent unscheduled cesarean deliveries.

METHODS: We conducted a retrospective chart review study and examined all deliveries in the Department of Obstetrics and Gynecology at Hadassah University Hospital, Mt. Scopus campus, Jerusalem, Israel, during 2009-2014. We reviewed all cases of hypoxic-ischemic encephalopathy in singleton, term, liveborn neonates and identified seven such cases, three of which were attributed to obstetric mismanagement and four that were not. We measured the rate of unscheduled cesarean deliveries before and after the events and their respective hazard ratio.

RESULTS: Before a mismanaged delivery resulting in hypoxic-ischemic encephalopathy, the baseline rate of unscheduled cesarean deliveries was approximately 80 unscheduled cesarean deliveries for every 1,000 deliveries. In the first 4 weeks immediately after each of the three identified cases, there was a significant increase in the rate of unscheduled cesarean deliveries by an additional 48 unscheduled cesarean deliveries per 1,000 deliveries (95% confidence interval [CI] 27-70/1,000). This increase was transient and lasted approximately 4 weeks. We estimated that each case was associated with approximately 17 additional unscheduled cesarean deliveries (95% CI 8-27). There was no increase in the rate of unscheduled cesarean deliveries in cases of hypoxic-ischemic encephalopathy that were not associated with mismanagement.

CONCLUSION: The increase in the rate of unscheduled cesarean deliveries after a catastrophic neonatal outcome may result in short-term changes in obstetricians' risk evaluation.

Journal:
Obstetrics & Gynecology

Volume:
129

Issue:
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