

Is there any increase in newborn morbidity in elective C-sections performed before the 39th week of pregnancy?

DALVA LUCIA COTRIM PEREIRA CARRILHO, ANA PAULA ROCHA VEIGA, WANDERLEY MARQUES BERNARDO, BEATRIZ ALVARENGA GONZALES

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INTRODUCTION

In recent decades, an increase of elective and planned C-sections, even before the onset of labor, has been noticed. At the same time, increased respiratory morbidity in newborns undergoing this procedure has been observed.

MATERIAL AND METHODS

Retrospective cohort study, analyzing hospital records of women undergoing cesarean section, as well as records of the evolution of the corresponding newborns. Through the analysis of indications, as well as clinical and obstetric history, we selected patients undergoing elective C-section (in the absence of clinical indication or recognized obstetric complications) who delivered viable infants at 37 weeks of gestation or later. The deliveries were characterized according to the number of completed weeks of gestation. Gestational age was determined by the obstetrician after medical record review of these patients, based on clinical history (last menstrual period) and/or the earliest pregnancy ultrasound. Neonatal outcomes assessed were: mortality, transient tachypnea of the newborn, neonatal sepsis, persistent pulmonary hypertension, need for supplemental oxygen, hospitalization in neonatal intensive care unit (NICU), and hospital discharge 48 hours after birth. The results are shown in absolute risk reduction and number needed to harm (NNH).

RESULTS

Out of 1,779 cesarean deliveries analyzed, 617 were included in this study. The mean age of mothers was 27.9 years,

and 85.1% were between 18 and 34 years. The mean gestational age at delivery was 39 weeks. Gestational age group distribution showed 9.3% births at 37 completed weeks, 36.3% at 38 completed weeks, 35.8% at 39 completed weeks, 16.5% at 40 completed weeks, and 2.1% births at 41 completed weeks. Of these, 99.7% had prenatal care and 7.8% had comorbidities. About 41% of these women were in labor at the time of elective C-section. There were no deaths in the study population until hospital discharge. Transient tachypnea occurred in 30 newborns (4.9%). There was 1 case of persistent pulmonary hypertension (0.2%) and 6 cases of neonatal sepsis (0.97%). There was an increase in the risk of TTN at weeks 37 and 38 compared to week 39, 18.5% (NNH: 6) and 7.5% (NNH: 13), respectively. There was also an increased need for oxygen therapy, 11.8% (NNH: 8) and 6.7% (NNH: 15), respectively, and an increased risk of hospitalization for more than 48 hours in 15.7% (NNH: 7) and 7.1% (NNH: 15), respectively. The increased risk of neonatal sepsis at week 37 was 4.8% (NNH: 20) (Table 1).

CONCLUSION

In low-risk pregnant women, there is an increased risk of TTN, need for supplemental O₂, hospitalization for more than 48 hours and neonatal sepsis associated with elective C-section at weeks 37 and/or 38 compared to 39 completed weeks of gestation.

Keywords: C-section, newborn, respiratory morbidity, transient tachypnea of the newborn.

TABLE 1 Incidence of neonatal outcomes analyzed according to the number of completed weeks of gestation at birth

Outcome	Weeks					p*
	37	38	39	40	41	
TTN	11/57	18/224	1/221	0/102	0/13	<0.01
Pulmonary hypertension	0/57	0/224	1/221	0/102	0/13	0.79
Neonatal sepsis	3/57	2/224	1/221	0/102	0/13	0.028
Need for O ₂ therapy	7/57	16/224	1/221	0/102	0/13	<0.01
NICU hospitalization	3/57	2/224	1/221	0/102	0/13	0.028
Hospital discharge at 48 h	48/57	208/224	220/221	102/102	13/13	<0.01**

*values obtained by Fisher's exact test; ** value obtained by x2 test; TTN: transient tachypnea of the newborn; NICU: neonatal intensive care unit.