

Small at birth but remarkable catch up

Follow up on infants born to mothers with spinal cord injury

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Photo: Claudio Bresciani

Introduction

Pregnancy, delivery and parenthood in women with SCI is possible but do present unique challenges for both mother, infant and healthcare providers. Knowledge gaps and limited experience exist in many areas of obstetrical, postnatal development and pediatric management in this group.

Aim

To study neonatal outcomes, growth development and duration of breastfeeding during the first six months of life in infants born to mothers with SCI.

Materials and methods

We performed a retrospective, population-based cohort study based on medical records. Mothers and infants were recruited from the Spinalis Foundation's networks. The Swedish nationally adopted growth-chart for newborn males and females respectively was used as reference.

Inclusion criteria: Mothers with acquired SCI who gave birth in Sweden and whose children underwent the routine health assessments.

Exclusion criteria: Mothers with SCI during pregnancy, intrauterine fetal death, congenital spinal cord injury.

Mothers who met the inclusion criteria and participated in the study submitted questionnaires regarding SCI level and completeness.

Conclusions:

- To our knowledge, this is the first long-term study to investigate physical development during the first six months of life in **term infants** born to mothers with SCI.
- The infants were significantly smaller at birth compared to the reference population. If this has any implications on long term health is not known. The current data set is too small to identify possible background factors.
- Elective cesarean section was performed in 48% of all cases and we speculate that this may be due to lack of knowledge in obstetric management since SCI care in Sweden is not centralized.
- The majority of women, regardless of injury level, breast-feed their infants to some extent. Our data suggests that women with injuries at or above Th6 breastfeed for a shorter duration which is in line with previous research regarding breastfeeding with SCI.
- Further studies are warranted to corroborate these findings and elucidate possible reasons.

Results

67 delivery records and 32 medical records from child health care centers were collected and analyzed. 12 infants (18%) were born preterm, birth years ranged from 1976 to 2018 and the material covered the entire nation.

In our group of term infants (n=54), four infants (7%) had an Apgar score of <7 at 1 minute post partum, 1 infant at 5 minutes and none at 10 minutes. Nine infants (16%) were admitted to the NICU post-partum.

Table 1. Neonatal outcomes

	1 min (N = 51)		5 min (N = 50)		10 min (N = 31)	
Apgar-score < 7	4		1		0	
Apgar-score ≥ 7	47		49		31	
	Total (N = 53)		Injury at or above Th6 (N = 18)		Injury below Th6 (N = 35)	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
NICU-admittance	9 (17)	44 (83)	3 (17)	15 (83)	6 (17)	29 (83)

Term infants of both sexes with SCI mothers were significantly smaller at birth regarding both height and weight, compared to the reference cohort. However, the infants had a full catch up regarding these parameters within three months when no difference was observed.

In the entire group (all births included), there was no difference in time spent fully or partially breastfeeding between the higher- (SCI at or above Th6) and lower lesion (SCI below Th6) group. However, the higher-lesion group had a shorter overall duration of breastfeeding compared to the lower-lesion group.