



High prevalence of abnormal motor repertoire at 3 months corrected age in extremely preterm infants

Toril Fjørtoft

,Kari Anne I. Evensen

,Gunn Kristin Øberg

,Nils Thomas Songstad

,Cathrine Labori

,Inger Elisabeth Silberg

,Marianne Loennecken

,Unn Inger Møinichen

,Randi Vågen

,Ragnhild Støen

,Lars Adde

¹Ragnhild Støen and Lars Adde share the last authorship.

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Highlights

- ELBW/ELGAN infants had poorer quality of early motor repertoire compared with term infants not explained by gestational age.
- The risk of having abnormal concurrent movements along with normal fidgety movements was higher in the ELBW/ELGAN group than in term-born infants.
- The findings were not explained by severe abnormalities on neonatal brain imaging or the degree of prematurity.

Abstract

Aims

To compare early motor repertoire between extremely preterm and term-born infants. An association between the motor repertoire and gestational age and birth weight was explored in extremely preterm infants without severe ultrasound abnormalities.

Methods

In a multicentre study, the early motor repertoire of 82 infants born extremely preterm (ELGAN:<28 weeks) and/or with extremely low birth weight (ELBW:<1000 g) and 87 term-born infants were assessed by the “Assessment of

Motor Repertoire – 2 to 5 Months” (AMR) which is part of Prechtl's “General Movement Assessment”, at 12 weeks post-term age. Fidgety movements were classified as normal if present and abnormal if absent, sporadic or exaggerated. Concurrent motor repertoire was classified as normal if smooth and fluent and abnormal if monotonous, stiff, jerky and/or predominantly fast or slow.

Results

Eight-teen ELBW/ELGAN infants had abnormal fidgety movements (8 absent, 7 sporadic and 3 exaggerated fidgety movements) compared with 2 control infants (OR:12.0; 95%CI:2.7–53.4) and 46 ELBW/ELGAN infants had abnormal concurrent motor repertoire compared with 17 control infants (OR:5.3; 95%CI:2.6–10.5). Almost all detailed aspects of the AMR differed between the groups. Results were the same when three infants with severe ultrasound abnormalities were excluded. In the remaining ELBW/ELGAN infants, there was no association between motor repertoire and gestational age or birth weight.

Conclusion

ELBW/ELGAN infants had poorer quality of early motor repertoire than term-born infants. The findings were not explained by severe abnormalities on neonatal ultrasound scans and were not correlated to the degree of prematurity. The consequences of these abnormal movement patterns remain to be seen in future follow-up studies.

Keywords:

[Extremely preterm infants](#), [General movements](#), [Abnormal motor repertoire](#), [Term-born infants](#)