

Neonatal facial movements in the first minutes of life--eye opening and tongue thrust: an observational study.

Hentschel J, Ruff R, Juette F, von Gontard A, Gortner L.

Saarland University Children's Hospital, General Pediatrics and Neonatology, Homburg/Saar, Germany.

Am J Perinatol. 2007 Nov;24(10):611-8. Epub 2007 Oct 30.

Infants born by caesarean section (CS) near or at term were observed to display spontaneous facial movements in their first minutes. We hypothesized that those are reproducible. Up to now, nothing was known about the significance, frequency, and determinants of such facial activity. Repetitive eye opening (EO) and tongue thrust (TT) actions were documented during 1 to 5 minutes, 5 to 10 minutes, and 1 to 15 minutes in 102 infants. In addition, 32 infants were recorded on video from minute 2 to minute 10. Infant- and maternal-influencing factors were noted and videos analyzed using Interact (Version 7.1, Mangold International, Arnstorf, Germany). According to our results, 99 of 102 newborns (gestational age, 33 to 42 weeks) performed EO or TT during the first 15 minutes. Preterm and infants with lower Apgar scores and infants born under general anesthesia showed less EO. Infants of smoking mothers, newborns admitted to special care, and infants with lower umbilical artery pH had significantly fewer TT episodes. Within a "normal" population of newborns of > 37 weeks at delivery (n = 57), 97% showed EO and 95% showed TT. In the filmed 32 newborns, infants began EO at 2:40 and TT at 2:34 minutes of life on average. Crying had no influence, but suctioning/intervention reduced EO frequency. In conclusion, EO and TT are occurring regularly during neonatal adaptation. TT seems to be an inborn automatic behavior; numerous occurrences of EO argue for neurological well-being. Both facial actions may initiate maternal-infant attachment.

PMID: 17972233 [PubMed - indexed for MEDLINE]

Related Links

- [Behavioral pattern continuity from prenatal to postnatal life--a study by four-dimensional \(4D\) ultrasonography.](#) [J Perinat Med. 2004]
- [The apgar score and its components in the preterm infant.](#) [Pediatrics. 1998]
- [Antecedents and neonatal consequences of low Apgar scores in preterm newborns: a population study.](#) [Arch Pediatr Adolesc Med. 2000]
- [Predictors of neonatal resuscitation, low Apgar scores, and umbilical artery pH among growth-restricted neonates.](#) [Obstet Gynecol. 1998]
- [\[Acid-base balance and umbilical blood gases in neonates born at term in North-Eastern region of Poland\]](#) [Med Wieku Rozwoj. 2006]