FOXP2 Expression as a Predictor of Oral Feeding Success

Monica Maki1 & Emily Zimmerman, Ph.D., CCC-SLP1
1Department of Communication Sciences & Disorders, Northeastern University, Boston, MA

Abstract

Many prematures must confront the challenge of learning to eat by relatively young age after being discharged from the neonatal intensive care unit (NICU). The earlier a child is able to transition from tube feeding to oral feeding, the greater the potential for nutritional and developmental benefits (Bowers, 2009). To achieve this goal, the NECO study (Zimmerman et al., 2008) was designed to identify genetic tests that could be correlated with other covariates such as speech production. The study examined the transcription factor protein FOXP2 gene expression levels in neonatal saliva to predict oral feeding success.

Background


Methods

Participants

We recruited 30 healthy, gestational age 34+ weeks, infants (17 female, 13 male; age range: 33.4 to 35.2 weeks). Research was approved by the Institutional Review Board at Shriners Hospitals for Children, Boston.

Statistical Analyses

A Pearson Correlation was completed to assess the relation between Delta Ct and the number of days required to reach full PO feeds. The results were statistically significant (r = 0.76, p < 0.001).

Results

The mean maternal age was 29 years old. The mean infant age was 34.6 weeks. The mean weight at first PO was 2,960 grams. The mean number of days required to reach full PO was 17.1 days.

Conclusion

The findings indicate that FOXP2 gene expression levels in neonatal saliva can serve as a noninvasive biomarker to predict oral feeding success in the premature population.

References


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