CAN: Cool Topics in Neonatology
March 3-5, 2017

Title of Abstract:

Patterned Frequency Modulated Oral Stimulation in Preterm Infants: A Randomized Controlled Trial

Name of Abstract Submitter:

Dongli Song, MD, PhD - Associate Chief, Division of Neonatology

Organization:

Neonatology, Santa Clara Valley Medical Center

Co-Author / Co-Investigators:

Dongli Song, MD, PhD, Priya Jegatheesan, MD, Suhas Nafday, MD, DCH, Kaashif Ahmad, MD, MSc, Jonathan Nedrelow, MD, Mary Wearden, MD, Sheri Nemerofsky, MD, Sunshine Pooley, MD, Diane Thompson, PhD, Tanya Cornejo, RN Zahava Cohen, RN, and Balaji Govindaswami, MBBS, MPH.

Abstract Description:

BACKGROUND: The delayed establishment of full oral feeds (FOF) in premature newborns contributes to prolonged length of hospital stay (LOS) in this population. Clinical therapies proven to facilitate oral feeding development are limited.

OBJECTIVE: To evaluate the effect of patterned and frequency-modulated oro-somatosensory stimulation (PFOS) on time to FOF and LOS in preterm infants born at 26-30 weeks of gestation.

METHODS: This was a multicenter randomized controlled trial. Infants were randomized to the experimental group (n=109) which received PFOS via a pulsatile pacifier (NTrainer System®), or the control group (n=101) which received passive non-nutritive suck (pNNS) via a non-pulsatile pacifier. Infants received 30-40 sessions of interventions over two weeks. Standardized oral feeding advancement protocol was used.

RESULTS: Compared to the control group, infants in the experimental group had reduction in time to FOF (mean 4.0 days, 95% CI: 0.4-7.6; p=0.03; median 3.0 days, p=0.1) and LOS (mean 6.0 days, 95% CI 0.5-11.6, p=0.03; median 9.0 days, p=0.03). These reductions were observed in the 29–30 weeks subgroup (FOF: mean 5.2 days, 95% CI: 0.2-10.1, p=0.04; median 4.0 days, p=0.06; LOS: mean 10.5 days, 95% CI: 3.4-17.7, p=0.004; median 7.0 days, p=0.008), but not in the 26–28 weeks subgroup. There was no difference in neonatal mortality or morbidities between the two groups.

CONCLUSIONS: PFOS reduces time to FOF and LOS in very preterm infants without adverse effects. The gestation age-dependent response to PFOS may be related to targeting a critical period of feeding development.

Funding Acknowledgement (if applicable):

Innara Health Inc.

First 5 California and Valley Medical Center Foundation (Santa Clara County)