

Winchester, P.D.; Levesque, Ryan. The Effects of Intrauterine Growth Restriction on Postnatal Age of Last Apnea, Last Gavage Feeding, and Discharge in Preterm Infants. Pediatric Academic Societies USA; 2172, 2002.

http://www.abstracts2view.com/pasall/view.php?nu=PAS2L_217

Paul D. Winchester, Ryan Levesque, Mike Wrick. (Sponsored by Robert A. Darnall) Neonatology, Elliot Hospital, Manchester, NH; Brown University, Providence, RI; Neonatology, Dartmouth Medical School, Lebanon, NH

BACKGROUND: Previous studies have demonstrated that the length of hospital stay of 30-33 week infants is largely determined by maturation of breathing and oral feeding. We have also reported that antenatal betamethasone influences the maturation of these behaviors.

OBJECTIVE: In this study we examine in 30-33 week infants whether severe intrauterine growth restriction(IUGR)affects maturation of breathing and oral feeding, expressed as the 'post-menstrual day of last apnea'(PMDLA),and the 'post-menstrual day of last gavage'(PMDLG)and the readiness for discharge expressed as the 'post-menstrual day at discharge'(PMDAD).

DESIGN/METHODS: Premature infants of 30 0/7-33 6/7 weeks gestation born between 10/1994 and 5/2001 and exclusively cared for at the Elliot Hospital until discharge were candidates for study. Gestation at birth was determined by LMP and confirmed by ultrasound prior to 20 wks. and/or clinical estimate. Infants with illnesses or anomalies that could affect feeding and breathing maturation and infants who either remained on gavage feeding or continued to experience apnea events at discharge were excluded from the study. In 183 infants birth weights and head circumferences were recorded and assigned percentiles using standard intrauterine growth curves. Severe IUGR was defined as birth weight or head circumference below the 10th percentile.

RESULTS: Severe IUGR infants defined either by weight or head circumference took longer to achieve full PO feeding, took longer to resolve their apnea of prematurity, and were discharged later than non-IUGR infants(see table)

CONCLUSIONS: Severe intrauterine growth restriction at birth is associated with significant delays in cessation of apnea and gavage tube feedings, and with prolongation of hospital stay. The evidence that both sucking and breathing maturational events are influenced by IUGR might suggest that brainstem function is adversely affected by antenatal events associated with IUGR. Further investigations are needed to support this conjecture.

Variable	IUGR(wt)	Non IUGR wt	P	IUGR (hc)	Non IUGR hc	P
PMDLG	257.0±5.0	245.4±0.6	<.001	255.6±4.1	245.3±0.6	<.001
PMDLA	254.7±4.5	243.3±0.9	<.005	250.6±4.6	243.4±0.9	<.05
PMDAD	267.4±4.6	256.3±0.7	<.001	265.1±4.1	256.3±0.7	<.004