



ISFAHAN UNIVERSITY OF MEDICAL SCIENCES

SCHOOL OF MEDICINE

PEDIATRIC DEPARTMENT

Thesis for obtaining the M.D. Degree

Title :

**Comparison of prolonged low volume milk and routine volume  
milk on incidence of Necrotizing enterocolitis in very low birth  
weight Neonates**

NUMBER:390366

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Apr 2014

## Comparison of prolonged low volume milk and routine volume milk on incidence of necrotizing enterocolitis in very low birth weight neonates

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### ABSTRACT

**Objective:** Advancing feedings too rapidly may increase the risk of necrotizing enterocolitis. Few studies have been performed to compare the incidence of NEC from different methods of feeding. Our objective was to compare the results of prolonged low volume milk versus routine volume milk increase on incidence of NEC in VLBW neonates.

**Methodology:** This study included Premature VLBW neonates admitted to the NICU at Alzahra and Shahid Beheshti Hospitals in Isfahan, between September 2011 and November 2012. On the day that the attending neonatologist chose to begin feedings, study infants were randomly assigned to be fed using minimal (group M) or advancing volumes (group A). Infants of group M who were randomized to minimal volumes were fed 20 mL/kg/d for 7 days in 2-hour cycles consisting of a 20-minutes of gavage of milk or formula followed by about two hours of fasting. After 7 days, feeding volumes for infants were increased by 20 mL/kg/d until a volume of 150 mL/kg/d was achieved and maintained. Infants who were randomized to advancing volumes (group A) were fed with initial 20 mL/kg/d using the same strategy as for infants fed minimal volumes. Then on day two, feeding volumes were increased to 40 mL/kg/d, until a volume of 150 mL/kg/d was achieved. In both groups feeding characteristics, such as milk volumes, gastric residuals, abdominal distension, postnatal ages when full enteral feedings were achieved, NEC and death were recorded daily.

**Results:** Eighty two neonates completed the study. Only three infant (8.57%) which had been placed in minimal volume group developed suspected NEC, as compared to 12 neonates (25.53%) who were fed advancing volumes. Incidence of milk intolerance and the need for milk cessation was significantly greater in group A than group M. Infants who had been placed in advancing volume group reached full enteral feeding volumes sooner than infants who had been placed in minimal volume group. But average hospital discharge age and average weights at 30 days of life were similar between two groups.

**Conclusion:** Due to the potential risks of NEC in preterm infants and based on this study feeding strategy (prolonged low milk volume in newborn babies) could be suggested for VLBW neonates. Further studies are needed to confirm these findings.

**KEY WORDS:** Preterm, VLBW, Feeding, NEC.

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