Higher Versus Usual Volume Feedings in Very Preterm Infants:

A Randomized Clinical Trial. J Pediatr. 2020 Sep;224:66-71.e1

Background & Objective:

•Growth velocities of 14-20 g/kg/day using volumes of approximately 150 mL/kg/day of fortified human milk or preterm formula have been recommended

•Postnatal growth failure (<10th centile) occurs in 50% of VLBW babies and severe postnatal growth failure (< 3rd centile) occurs in about 25%

•Higher volume feedings may mitigate these nutritional deficits

Objective: To determine if higher volume feedings improve postnatal growth among very preterm infants

Methods:

•Single centre, randomized clinical trial with 1:1 parallel allocation

•*Inclusion criteria* ***(P)***: Infants with gestational age < 32 weeks, birthweight 1001-2500 g and reached full enteral feeds (≥120 ml/kg/day)

•*Exclusion criteria*: Infants with a hemodynamically significant PDA, NEC > stage 2 or a known gastrointestinal or neurological malformation

•Higher ***(I)*** (180-200 ml/kg/day, n=104) or usual volume feedings ***(C)*** (140-160 ml/kg/day, n=113)

•*Primary outcome measure* ***(O)***: Growth velocity (g/kg/day) from randomization to study completion at 36 weeks of postmenstrual age or hospital discharge if earlier ***(T)***

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet

Higher Versus Usual Volume Feedings in Very Preterm Infants : Which is better for postnatal growth?

Results:

- N=224, growth velocity increased among infants in the higher volume group compared with the usual volume group (mean [SD], 20.5 [4.5] versus 17.9 [4.5] g/kg/day; p<0.001)
- At study completion, all measurements (weight, length, head circumference, mid-arm circumference) higher among infants in the higher volume group
- BPD, PDA, NEC, duration of respiratory support or other adverse outcomes did not differ
- Proportion of infants with postnatal growth failure was 12% in the higher volume group compared with 21% in the usual volume group (p=0.07)

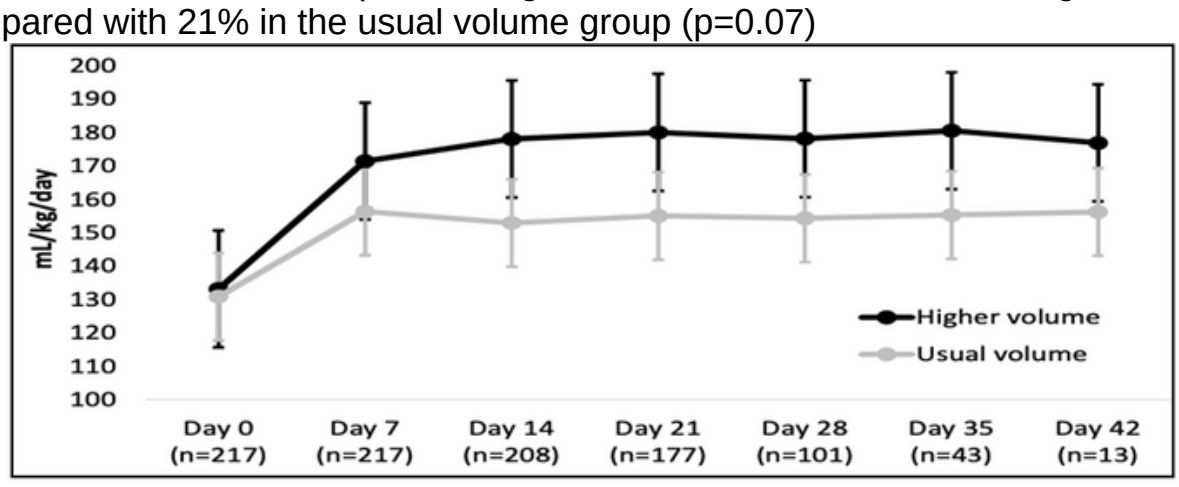

Figure: Mean (SD) feeding volumes (ml/kg/day) received at study entry and every 7 days until completion

Conclusions: In very preterm infants weighing 1001-2500 grams at birth, **higher volume feedings increased growth velocity, weight, head circumference, length, and mid-arm circumference** compared with usual volume feedings without adverse effects.

EXPERT COMMENT

"This study has revealed that higher volume feedings increased not only growth velocity but also weight, head circumference, length, and mid-arm circumference compared with usual volume feedings. Higher volume feedings may be a safe and effective way to improve postnatal growth in very preterm infants. However, the risk reduction of postnatal growth restriction observed in the higher volume group did not reach statistical significance."

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With warm regards,

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Reference

Travers CP, Wang T, Salas AA, Schofield E, Dills M, Laney D, et al. Higher or Usual Volume Feedings in Very Preterm Infants: A Randomized Clinical Trial. J Pediatr. 2020 Sep;224:66-71.e1. https://doi.org/10.1016/j.jpeds.2020.05.033