Hot topics from the web

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Neonatal-talk (www.infantgrapevine.co.uk) and NICU-NET (www.neonatology.org/nicu-net/join.html) are two of the many websites devoted to the exchange of information between staff involved in the care of neonates and infants, and the following are just a few of the new and on-going topics discussed. The opinions expressed do not claim to be evidence-based but will hopefully promote further discussion.

Oxygen therapy
NICU-NET

A lengthy discussion followed when a paediatrician in Iraq asked whether it was necessary to give supplemental oxygen to a newborn with respiratory distress if pulse oximetry was normal. The many replies indicated that 'doing no harm' was a good principle. Most people said that as supplemental oxygen is a drug and like all drugs has potentially serious side effects, then using pure oxygen in depressed infants with normal lungs is increasingly difficult to justify. It is respiratory effort that is absent – not oxygen. Resuscitation with room air causes less oxidative stress in moderately asphyxiated term neonates, and causes less damage to heart and kidneys. Alternative thoughts were that minimal supplemental oxygen will prevent further deterioration, such as in mild meconium aspiration syndrome.

Comment

Indiscriminate use of oxygen in preterm infants has clearly been associated with retinopathy of prematurity (ROP) and resultant blindness. Whilst this practice is now obsolete, work is ongoing to find the optimal oxygen saturation at which to maintain newborn infants after birth. The evidence is growing that higher oxygen saturations of 93% or more are associated with a higher risk of severe ROP and pulmonary complications such as chronic lung disease[1,2]. The traditional method of resuscitating newborn infants with 100% oxygen is now also being questioned, as there is evidence that this practice increases production of free radicals which can cause cell injury[3]. Again, the optimal oxygen saturation during resuscitation is unknown, but hyperoxia should be avoided.

1. **Saugstad O.D.** Oxygen for newborns: How much is too much? *J Perinatol* 2005; **25**: S45-S49.
2. **Saugstad O.D.** Oxygen and retinopathy of prematurity. *J Perinatol* 2006; S46-S50.
3. **Vento M., Asensi M., Sastre J. et al.** Resuscitation with room air instead of 100% oxygen prevents oxidative stress in moderately asphyxiated term neonates. *Pediatrics* 2001; **107**: 642-47.

Continuous gavage feeding
NICU-NET

A consultant from India asked how to use formula milk for this purpose, in VLBW infants, when insufficient breast milk is available. According to the manufacturers' instructions, milk should be used within 30 minutes of preparation and it was obviously impractical to change the syringe this frequently. One answer assumed the questioner was trying to avoid the incidence of NEC and commented that only EBM or 'nil orally' would reduce the incidence of this disease. If this was not the case, he suggested the use of intermittent feeding. Another respondee asked why feeding was continuous as this was not recommended – especially in VLBW infants. A further negative comment suggested that reconstituted formula should never be used in VLBW infants, for fear of infection. If sufficient EBM was unavailable, sterile liquid formula should be used which can be safely kept at room temperature for six hours.

This prompted a further question about intermittent feeding and whether syringes should be left attached after a feed to allow for wind to escape, preventing vomiting. It would seem that some units did this, others disconnected and washed and dried the syringe until the next feed and yet others used a fresh syringe each time.

Comment

Continuous nasogastric feeding of preterm infants is today practised less frequently. Bolus feeds are thought to promote a more physiological profile of gut-derived neuroendocrine peptides, as well as being less prone to the problems of microbial contamination and adsorptive loss of nutrients[1]. There is little in the way of hard evidence to support either method of feeding, however, and a Cochrane review of relevant trials failed to find any significant differences in outcome between the two methods[2]. The use of breast milk rather than formula has clearly been shown to reduce the incidence of necrotising enterocolitis[3], and adherence to a standardised feeding regimen may further help to lower the risk of developing this disease[4].

1. **Williams A.F.** Early enteral feeding of the preterm infant. *Arch Dis Child* 2000; **83**: F219-20.
2. **Premji S., Chessell L.** Continuous nasogastric milk feeding versus intermittent bolus milk feeding for premature infants less than 1500 grams. *Cochrane Database of Systematic Reviews* 2002, Issue 4. Art. No.: CD001819.
3. **Schanler R.J., Shulman R.J., Lau C.** Feeding strategies for premature infants: Beneficial outcomes of feeding fortified human milk versus preterm formula. *Pediatrics* 1999; **103**: 1150-57.
4. **Patole S, de Klerk N.** Impact of standardised feeding regimens on incidence of neonatal necrotising enterocolitis: A systematic review and meta analysis of observational studies. *Arch Dis Child* 2005; **90**: F147-51.

Laundry and infection control
neonatal-talk

In the light of widespread infection, a questioner from the UK wanted to know what other units were doing with regard to washing baby clothes. It would appear that most washed them at 95° with or without bleach as an additive. Some units insisted that parents washed their own baby clothes at home, whilst 'hospital' blankets went to the hospital laundry. All 'in NICU' users appeared to use a domestic rather than a commercial washer.