

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.



Breast feeding and substance abuse NICU-NET

A questioner from the USA wanted to know what other practices were regarding maternal drug use (particularly marijuana). In her hospital breastfeeding is prohibited if the mother's urine tests positive and it is discouraged if the mother continues to smoke marijuana after discharge. Respondents from as far afield as Australia, the UK and the USA thought it was better to discourage the substance abuse and encourage breastfeeding. Apart from the detrimental effects of drugs to the mother and baby, 'second hand smoke' has proved to be harmful as well. Also, several replies indicated that if the mother is 'using' it is rarely just one drug, and testing positive for 'hard drugs' should trigger alarms. Breast is best – especially in the small babies that drug abusers may have – and drug abuse should be discouraged whilst encouraging breast feeding.

Comment

Recommendations regarding breastfeeding for infants of substance-abusing mothers depend on the drug of abuse. Opiate users who are fully maintained on methadone should be encouraged to breastfeed, as the amount of methadone transferred into breast milk is very small¹. Breastfeeding is not recommended where mothers are using cocaine, as adverse effects including seizures have been recorded in infants exposed to cocaine via breast milk². There are few data available regarding the effects (if any) of marijuana on the breastfed infant, although it has been shown that Delta⁹-THC, the active metabolite of marijuana, is transferred into breast milk³. One study found an association between postnatal maternal marijuana use and slower infant motor

development when assessed at one year of age, but the relationship may not have been caused by marijuana exposure from breast milk; antenatal marijuana exposure, passive smoke inhalation and altered maternal/infant interaction are three alternative explanations for the observed association⁴. In the absence of any good evidence, the best approach must be to discourage mothers from using marijuana whilst encouraging them to breastfeed, which has proven benefit.

1. **American Academy of Pediatrics, Committee on Drugs.** The transfer of drugs and other chemicals into human breast milk. *Pediatrics* 2001; **108**: 776-89.
2. **Chasnoff I.J., Lewis D.E., Squires L.** Cocaine intoxication in a breast-fed infant. *Pediatrics* 1987; **80**: 836-38.
3. **Perez-Reyes M., Wall M.E.** Presence of delta⁹-tetrahydrocannabinol in human milk. *N Engl J Med* 1982; **307**: 819-20.
4. **Astley S.J., Little R.E.** Maternal marijuana use during lactation and infant development at one year. *Neurotoxicol Teratol* 1990; **12**: 161-68.

Surfactant NICU-NET

A nurse in an Indonesian unit wanted to know the optimal position of the infant when administering surfactant. Should the infant lie head up or down, be turned during administration, or kept supine? All the replies (from the USA and Turkey) stated that the head down position caused a transient increase in cerebral blood flow and augmented the risk of cerebral bleeding. It should therefore be avoided. Other units divided the dose of surfactant by two or four and most turned the infant from side to side – leaving the infant on the dosed side for one minute. A couple of units did not change the position of the baby. It appeared to vary according to which product was used.

Comment

It is interesting that all respondents to the original query on NICU-NET split the dose of surfactant into two or more aliquots, and the majority placed the infant in different positions to give these aliquots. This practice is recommended by the manufacturer of Survant[®], which is used widely in the United States¹. However, animal research has shown that the best position in which to achieve the most uniform distribution of exogenous surfactant with minimal handling may be simply keeping the infant horizontal^{2,3}. This is the practice recommended by the manufacturer of Curosurf[®], which is used extensively in the United Kingdom. Curosurf[®] may be given in a single bolus, as it has a smaller volume per dose than Survant[®]. The key to achieving uniform surfactant distribution when keeping the infant supine and horizontal is to ensure that the endotracheal tube is in an appropriate position. As it has been shown that prophylactic surfactant is more effective than rescue³, obtaining a chest radiograph prior to administration will usually cause an unacceptable delay. Initial endotracheal tube position must therefore be determined by the baby's size (weight or gestation). Useful guidance on endotracheal tube position has recently been published⁴.

1. www.survanta.com/fullprescribe.asp
2. **Broadbent R., Fok T.F., Dolovich M. et al.** Chest position and pulmonary deposition of surfactant in surfactant depleted rabbits. *Arch Dis Child* 1995; **72**: F84-89.
3. **Suresh G.K., Soll R.F.** Overview of Surfactant Replacement Trials. *J Perinatol* 2005; **25**: S40-S44.
4. www.trinity-chiesi.co.uk/files/Curosurf.pdf
5. **Mainie P., Carmichael A., McCullough S. et al.** Endotracheal tube position in neonates requiring emergency interhospital transfer. *Am J Perinatol* 2006; **23**: 121-24.