

# Fantoms

Ann Stark, Associate Editor

## INFECTION ON THE SKIN – INFECTION WITHIN?

Nosocomial infection is far too common in infants admitted to the Newborn Intensive Care Unit (NICU), especially in the smallest babies. Mandel *et al* reported that in 46 infants with nosocomial sepsis, 10 (22%) also developed cutaneous abscesses, mostly on the limbs at previous intravenous infusion sites. The lesions—first noted at days 12 to 32 of age—were single or multiple, and developed after the bacteremia (which was persistent in seven infants despite appropriate antibiotics). Increased awareness of this complication should reinforce the need for aseptic technique as well as prompt recognition by vigilant examination of the skin in infants who develop bacteremia.

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## IMMATURE ADRENALS IN PRETERM BABIES

The assumption of hypothalamic-pituitary-adrenal immaturity has influenced clinical practice, perhaps out of proportion to the available evidence. Ng and colleagues have added to our understanding of what they term transient adrenocortical insufficiency of prematurity (TAP) by performing human corticotrophin releasing hormone stimulation tests at 7 and 14 days of age in a series of preterm infants with and without systemic hypotension. The endocrine features of this condition

included normal or exaggerated pituitary response and adrenocortical insufficiency, which typically recovered by day 14. Serum cortisol concentrations were significantly associated with blood pressure values.

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## ASSESSING THE CIRCULATION

Although measurement of blood pressure (BP) is a mainstay of circulatory assessment in the NICU, the study of Osborn *et al* calls into question our reliance on any clinical measure of circulatory sufficiency in preterm infants. They found that mean BP < 30 mm Hg and/or capillary refill time  $\geq$  3 seconds detected reduced flow in the superior vena cava with a sensitivity of only 78%, as assessed by echocardiogram (their gold standard), and that increased central-peripheral temperature difference was not helpful.

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## HUMAN MILK IS BEST...

It is intriguing to contemplate preventing complications of prematurity—including chronic lung disease, retinopathy of prematurity, and necrotizing enterocolitis—by feeding human milk to infants to reduce the oxidative injury that has been implicated in their pathogenesis. Shoji *et al* directly demonstrated an antioxidant effect of human milk by measuring urinary excretion of 8-hydroxydeoxyguanosine (8-OHdG)—a marker of oxidative DNA damage. Urinary 8-OHdG excretion in very low birthweight (VLBW) infants fed human milk was lower at 14 and 28 than at 2 and 7 days of age, and was lower than in infants fed formula.

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## ...BUT HUMANOID MILK MIGHT BE QUITE GOOD TOO

Human milk provides ample arachidonic acid and docosahexaenoic acid (DHA)—long chain polyunsaturated fatty acids that appear to be important for neurodevelopment. To assess brainstem maturation, Unay and colleagues measured brainstem auditory evoked potentials (BAEP) at 1 and 16 weeks of age in term infants randomly assigned to formula with and without DHA supplementation, and in controls fed human milk. Decreased BAEP measurements were greater (indicating more rapid maturation) in infants who received human milk or DHA supplemented formula compared to formula without supplementation. The long term effects of closer matching of formula to human milk require further study.

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