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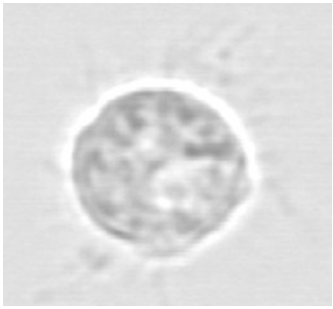
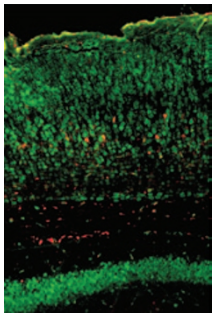
Formula and NEC



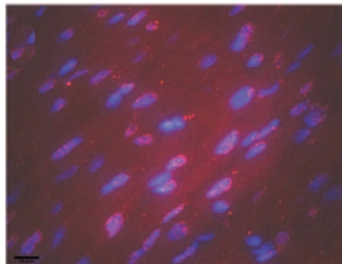
Preterm infants fed formula are at greater risk for necrotizing enterocolitis (NEC) as compared with those fed breast milk. The mechanisms of intestinal necrosis in NEC and protection provided by breast milk are unknown. Penn *et al*. found that after lipase digestion, formula, but not fresh breast milk, contained levels of unbound free fatty acids that are cytotoxic to intestinal cells. **See page 560**

Nonlethal hypoxia



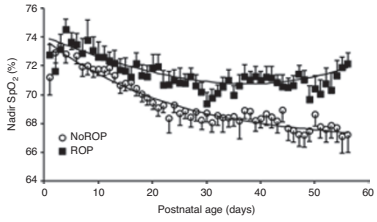
Preconditioning of neonatal mice with nonlethal hypoxia (HPC) protects their brains from hypoxic-ischemic injury. Overexpression of human glutathione peroxidase 1 (GPx1) reverses HPC protection, suggesting that a certain threshold of hydrogen peroxide concentration is required for activation of HPC signaling. Autheman and coinvestigators found that aberrant activation of extracellular-regulated kinase (ERK) probably explains the paradoxical reversal of HPC protection by GPx1 overexpression. The results identify hydrogen peroxide as an important mediator of neuroprotective ERK signaling. **See page 568**

Hypertrophic cardiomyopathy



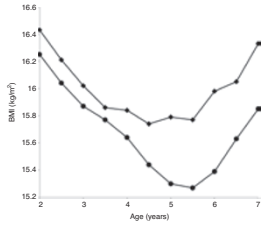
The risk factors for diastolic dysfunction in hypertrophic cardiomyopathy (HCM) are poorly understood. Alkon and colleagues investigated the association of variants in hypoxia-response genes with phenotype severity in pediatric HCM. They found that hypoxia-inducible factor upregulation and/or vascular endothelial growth factor downregulation genotypes were associated with more severe septal hypertrophy and diastolic dysfunction and may provide genetic markers to improve risk prediction in HCM. **See page 583**

Intermittent hypoxic patterns



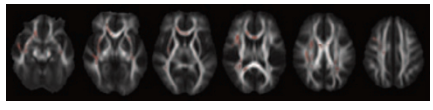
Animal models suggest that patterns of intermittent hypoxic (IH) events may be associated with the severity of retinopathy of prematurity (ROP). Di Fiore *et al*. hypothesized that specific IH patterns are associated with ROP in preterm infants. Variability in IH duration, severity, and the time interval between IH events, along with the frequency spectrum of the oxygen saturation (SpO_2) waveform, were assessed in 79 infants with either mild/no ROP or severe ROP. Severe ROP appeared to be associated with more variable, longer, and less severe IH events. **See page 606**

Breast milk and body mass



Polyunsaturated fatty acid consumption has changed, and the prevalence of adiposity has increased over the past 30 years. A decrease in n-3 polyunsaturated fatty acid content in breast milk might be a contributing factor. Pedersen *et al*. investigated the relationship between docosahexaenoic acid (DHA) content and n-6/n-3 polyunsaturated fatty acid ratio in breast milk, body composition, and timing of adiposity rebound in children. They found inverse associations between DHA levels in breast milk and measures of body mass. **See page 631**

White matter integrity



Eikenes and colleagues investigated whether being born small for gestational age (SGA) at term is associated with altered white matter (WM) integrity in young adulthood. They also explored the possible relationships between fractional anisotropy (FA) and pre- and perinatal factors and cognitive and psychiatric outcome in adulthood in SGA and controls. Diffusion tensor imaging and tract-based spatial statistics suggest that being born SGA is associated with reduced WM integrity in adulthood. **See page 649**