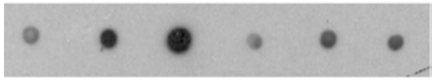
Volume 72 No. 5 November 2012

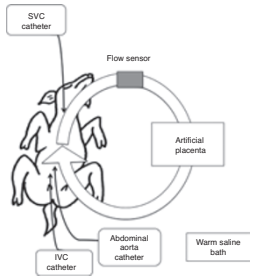
doi:10.1038/pr.2012.122

Bilirubin toxicity and lipid peroxidation



Hazardous levels of bilirubin produce oxidative stress *in vitro* and may play a role in bilirubin-induced neurologic dysfunction (BIND). Daood *et al.* hypothesized that certain antioxidants would inhibit oxidative stress and block BIND in hyperbilirubinemic j/j Gunn rat pups given sulfadimethoxine to induce bilirubin encephalopathy. Their findings show that lipid peroxidation inhibition alone is not sufficient to prevent BIND. **See page 455**

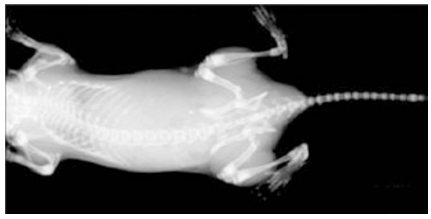
Artificial placenta



Because previous studies aimed at developing an artificial placenta have had limited success, Miura and coinvestigators hypothesized that the use of a high-performance membranous oxygenator with a pumpless artificial placenta could extend the survival time of premature lambs. Indeed, the survival of fetal lambs was prolonged using such an oxygenator with a small priming volume. Vasodilators may be more useful than vasoconstrictors for maintaining organ blood flow within this circuit. **See page 490**

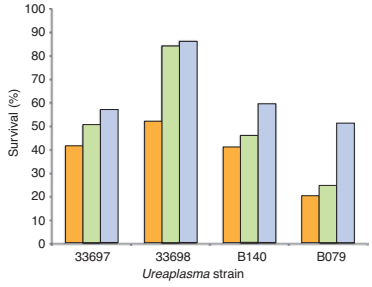
Osteogenesis imperfecta

Receptor activator of nuclear factor-κB ligand (RANKL) inhibitors are being considered for use



in children with osteogenesis imperfecta (OI). Bargman and co-workers sought to assess the efficacy of two doses of a RANKL inhibitor in a developmental mouse model of OI. Both high- and low-dose treatment resulted in osteopetrotic changes in infant mice, an outcome not seen in either studies with the RANKL inhibitor RANK–immunoglobulin Fc segment complex or studies in older animals. **See page 495**

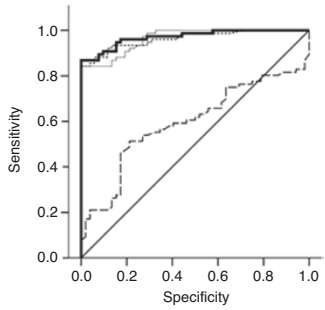
Ureaplasma sepsis model



No neonatal model to evaluate *Ureaplasma* sepsis has yet been reported. Using a neonatal mouse model, Weisman and coauthors tested the hypothesis that appropriate antibiotic treatment ameliorates *Ureaplasma* sepsis. They observed that treatment outcome was related to the infecting strain and antibiotic treatment. This model could be used to further investigate appropriate antibiotic selection for treatment of *Ureaplasma* sepsis in newborns. **See page 502**

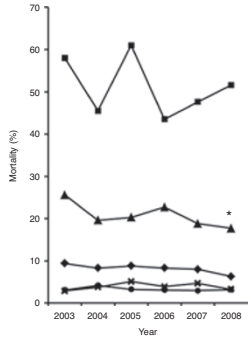
Neonatal sepsis marker

Oncel *et al.* investigated the value of proadrenomedullin (pro-ADM) as a marker of neonatal sepsis. The authors concluded that pro-ADM has high sensitivity and specificity



when used in combination with other acute-phase reactants, such as C-reactive protein and interleukin-6. **See page 507**

VLBW-infant mortality



Although medical care for very-low-birth-weight (VLBW) infants has improved over time, it is unclear how the advances have affected mortality and morbidity. Kusuda and colleagues analyzed a network database and found that, in Japan, mortality of VLBW infants decreased significantly from 2003 to 2008. **See page 531**

SPR presidential address

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Working Together for Advancement

In her presidential address, delivered at the 2012 Pediatric Academic Societies Annual Meeting, Susan Furth outlines threats to child health research and discusses the ability of the Society of Pediatric Research to confront these challenges. **See page 545**