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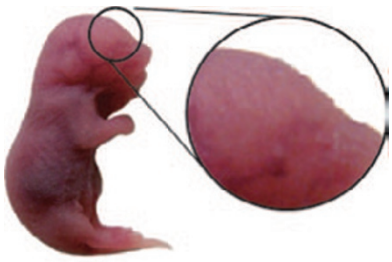
Ascorbic acid intake during gestation



Although it is known that ascorbic acid (AA) is important in maintaining normal fetal development, the mechanism remains unclear. Kishimoto and colleagues investigated the relationship between maternal AA levels and growth of fetal mice during gestation. The authors used senescence marker protein-30 (SMP30)/gluconolactonase (GNL) knockout (KO) mice, which cannot synthesize AA. Morphological analysis revealed that pups of SMP30/GNL KO mothers whose AA intake was low during gestation manifested abnormal cardiac dilation, congestion of the liver and lung, incompletely expanded pulmonary alveoli, and impaired vertebral bodies.
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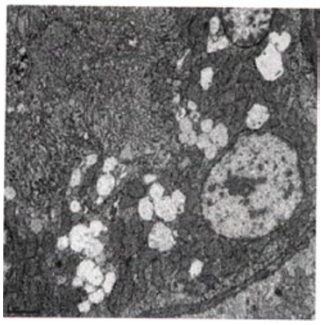
Diagnosing acute kidney injury



Delay in the diagnosis of acute kidney injury (AKI) using conventional biomarkers has been a major obstacle to successful intervention. Hanna and coinvestigators tested the hypothesis that urinary metabolomics can be used to identify novel early biomarkers of toxic renal injury. Urinary metabolites were evaluated in 3-day-old rats injected with various doses of gentamicin. The results suggest that metabolomic profiling is helpful for identifying early markers of gentamicin-induced AKI.
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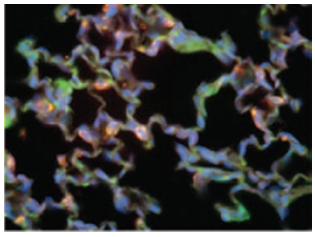
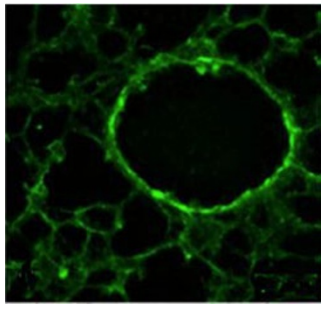
IUGR and the rat lung



Joss-Moore *et al*. hypothesized that intrauterine growth restriction (IUGR) persistently delays alveolar formation and disrupts retinoic acid receptor (RAR) mRNA and protein levels in the lungs of rat pups in a postnatal age- and sex-specific manner. They found that IUGR alone is not sufficient to affect postnatal alveolar formation or RARs and speculate that a second insult is necessary. **See page 612**

Betamethasone for PPHN



Betamethasone decreases the oxidative stress and improves antioxidant balance in persistent pulmonary hypertension of the newborn (PPHN). Konduri and colleagues investigated the effect of antenatal betamethasone on pulmonary vasodilation and postnatal oxygenation in late preterm lambs with PPHN. Their results show a decrease in oxidative stress and better postnatal transition with betamethasone treatment.
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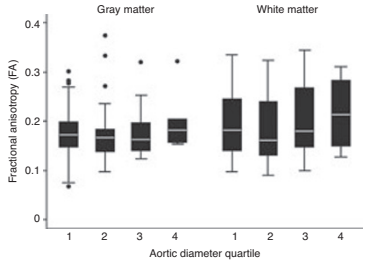
Aortic diameter and brain development



Term newborns with congenital heart disease show delayed brain development as early as the third trimester, especially in single-ventricle physiology (SVP). Sethi and colleagues aimed to determine whether cardiac anatomy associated with obstruction to antegrade flow in the ascending aorta is associated with delayed brain development. Their data, compiled from echocardiograms and magnetic resonance images of 36 term newborns with SVP, are consistent with this hypothesis. **See page 661**

Screen time and fitness

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Sandercock and Ogunleye investigated the relationship between screen time (encompassing use of television, computer, and video games) and cardiorespiratory fitness in 7,466 10- to 16-year-olds. As might be expected, these data suggest a negative association between screen time and fitness in youth and support international recommendations to limit such sessions to less than two hours a day. **See page 692**

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