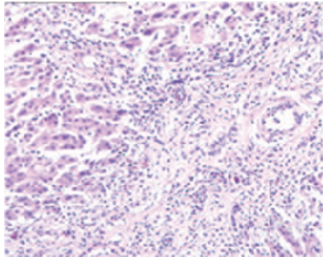


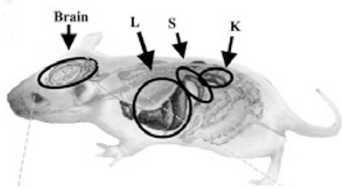
doi:10.1038/pr.2012.45

Lymphocytes and biliary atresia



Guo and colleagues investigated the role of T lymphocytes and natural killer (NK) lymphocytes in the destruction of extrahepatic bile ducts of patients with biliary atresia. Their results suggest that specific immune responses from NK and CD8⁺ cells were involved in the injury to the duct epithelium and might help characterize the phenotype of experimental biliary atresia. [See page 638](#)

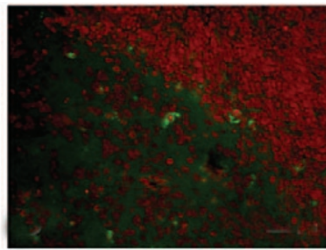
Bilirubin neurotoxicity



Few data exist regarding regional differences in brain bilirubin accumulation and expression of cytochrome P450 mono-oxygenases (*Cyps*) that oxidize bilirubin. In a study in Gunn rat pups, Gazzin *et al.* identified an inverse relationship between bilirubin accumulation and induction of *Cyps* mRNA in certain brain regions. This in turn may suggest regionally defined protection mechanisms. [See page 653](#)

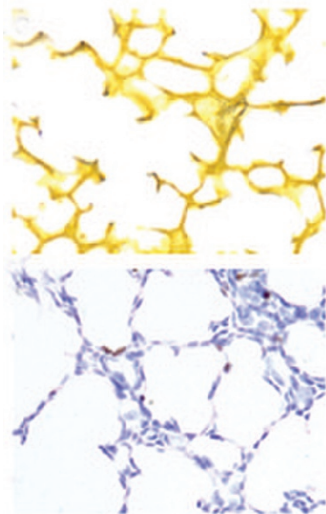
IUGR and brain injury

Campbell *et al.* hypothesized that intrauterine growth restriction



(IUGR) due to placental insufficiency sensitizes the neonatal rat brain to subsequent inflammatory insult. Indeed, results from this study suggest that lipopolysaccharide insult induces a more vigorous inflammatory response and more extensive characteristics of brain damage in growth-restricted fetuses as compared with normally grown controls. [See page 645](#)

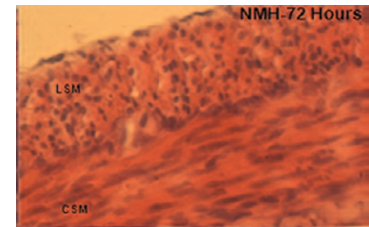
IUGR, glucocorticoids, and lung development



To clarify differential pulmonary effects of intrauterine growth restriction (IUGR) and maternal betamethasone (BM), Sutherland and co-investigators used a single umbilical artery ligation (SUAL) model in fetal sheep with or without additional maternal exposure to BM. They found that BM could accelerate structural fetal lung development in both SUAL animals

and controls but induced surfactant protein production only in the SUAL animals, not in controls. [See page 689](#)

Nonocclusive mesenteric hypertension's effect on gastroschisis



Shah and colleagues hypothesized that mechanical constriction due to gastroschisis, an abdominal-wall defect, is a stimulus for intestinal dysfunction. They observed that nonocclusive mesenteric hypertension seems to produce an intestinal injury pattern similar to that seen in current models of gastroschisis. [See page 668](#)

Gray matter volume in CCHS

Individuals with congenital central hypoventilation syndrome (CCHS) exhibit abnormalities in various areas of the brain. Kumar and colleagues found that gray matter volume appears to decrease with advancing age in autonomic, respiratory, and cognitive regulatory areas, whereas it seems to increase in sensory, temporal, and medullary regions. [See page 701](#)

