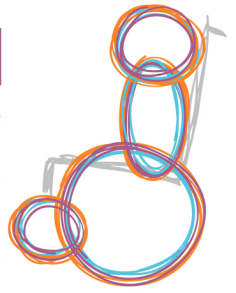


# How can we study the effects of infection in the immature brain using animal models?

childhood  
disability  
LINK



## Summary

Previous studies suggest that maternal/neonatal infection with subsequent release of inflammatory substances in the blood, such as cytokine, amplifies the effect of asphyxia (hypoxia/ischemia) to further exacerbate brain damage. Thus cytokines or their receptors might become targets of therapy to minimize brain injury in the newborn. The authors developed an original rat model of neonatal brain lesions that replicate the combination of infectious and/or asphyxia insults, which are detrimental to the brain during the newborn period in humans. Brain damage can be assessed by means of histological, neuroradiological (magnetic resonance imaging) and behavioral techniques.

## Practice Implications

Animal models for perinatal brain injury due to infection or asphyxia insult are available, so that we may study mechanisms to prevent or minimize brain injury. The authors are exploring the possibility of suppressing or blocking cytokines to protect the immature brain when exposed to infection.

## Reference

Larouche, A., Roy, M., Kadhim, H., Tsanaclis, A.M., Fortin, D., & Sébire, G. (2005). Neuronal injuries induced by prenatal exposure to lipopolysaccharide : animal model for perinatally acquired encephalopathy. *Developmental Neuroscience*, 27, 134-142.