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“Perinatal Infection and Inflammation: Effects on Fetal Brain Development”

Several different bodies of evidence support a link between *in utero* infection, and even inflammation itself, and altered brain development. Maternal infections, such as influenza and human immunodeficiency virus, have been linked to the development of autism spectrum disorders, differences in cognitive test scores, and bipolar disorder; an association that has been shown in both epidemiologic and retrospective studies. Several viral (with Zika being the focus of 2016), bacterial, and parasitic illnesses are associated with alterations in fetal brain structural anomalies including brain calcifications and hydrocephalus. The process of infection can activate inflammatory pathways causing the release of various proinflammatory biomarkers and histological changes consistent with an infectious intrauterine environment (chorioamnionitis) or umbilical cord (funisitis). Elevations in inflammatory cytokines are correlated with cerebral palsy, schizophrenias, and autism. Animal studies indicate that the balance of proinflammatory and anti-inflammatory cytokines is critical to the effect prenatal inflammation plays in neurodevelopment. Maternal infection and inflammation that occur during critical periods of fetal development could alter brain structure and function in a time-sensitive manner. Understanding mechanisms and consequences is important for diagnosis and treatment.

Wednesday
December 7, 2016
12:00p.m. – 1:00p.m.

Herklotz Seminar Room/ ZNI 112
USC Health Sciences Campus
1501 San Pablo Street, Los Angeles, CA 90033
Tel. 323.442.2144

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