sequestration, acting as host defense mechanism. We have showed earlier that NGAL is elevated by cytotoxophoblasts (CTs) treated with proinflammatory cytokines (Tadese et al. Reprod Sci 2011;18:713-22). This current study examines the possible protective role of iron and NGAL at the fetal-maternal interface in infection/inflammation.

**STUDY DESIGN:** In order to establish whether NGAL is expressed in clinically defined cases of IAI, we measured levels of mRNA in extracts of frozen placental tissue from 6 preterm cases [positive IAI, n = 3, GA: 30(28-32) wks]. AF cultures of frozen placental tissue from 6 preterm cases [positive IAI, n = 3, GA: 30(28-32) wks]. AF cultures and histology were used to confirm IAI. CTs were isolated from term (3, GA: 30(28-32) wks].

**RESULTS:** IAIs showed a 23-fold increase in NGAL mRNA vs GA matched idiopathic controls. Expression of NGAL mRNA in CTs supplemented with and without Fe, respectively, and IL1β,TNFα, and LPS were 4449-fold vs 4.8-fold, (p<0.001); 1318-fold vs 4.7-fold (p=0.003), and 3.3-fold vs 2.8-fold (p=0.01) compared to control. In the presence of Fe, NGAL protein levels in CTs were also markedly increased by treatment with IL1β, TNFα, LPS vs control (25-fold, 11-fold, 8-fold, respectively, all p<0.05). In the absence of Fe, IL1β,TNFα, LPS treatment alone promoted a small increase of NGAL protein levels.

**CONCLUSION:** IAI results in enhanced NGAL expression in ETVs. In vitro studies revealed marked upregulation of NGAL expression in CTs treated with Fe and proinflammatory compounds known to be increased in IAI. These results imply that NGAL functions as a mediator of innate immune responses at CTs at the maternal-fetal interface in pregnancies complicated by IAI.
Maternal HBeAg status and hepatitis B viral activity in HBsAg positive mothers

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OBJECTIVE: To determine the relationship between maternal hepatitis B e-antigen (HBeAg) status with activity of hepatitis B virus (HBV) in mothers screened positive for hepatitis B surface antigen (HBsAg) in order to explore the reported association between HBeAg positivity with risk of vertical transmission of HBV.

STUDY DESIGN: A prospective observational study was conducted in a group of Chinese mothers identified from positive antenatal screening for HBsAg and recruited from the antenatal clinic. Maternal characteristics, blood count, liver function, and blood HBV DNA level measured by TaqMan real-time polymerase chain reaction using Eurohep formation spectrometry. Separation of the drugs from their metabolites was determined in both the maternal and fetal circuits by liquid scintillation spectrometry. The data obtained using the dual perfusion model system revealed lower transfer of Tel than Van across human placenta. Supported by NICHD OPRU U10HD047891.

RESULTS: Following the perfusion period of 4 hours in the maternal to fetal direction, 10 + 4% of Van and 6 + 2% of Tel (p < 0.05) was transferred to the fetal circuit. Van remaining in the maternal circuit amounted to 59 + 5% as compared to 65 + 7% for Tel. The tissue retained 31 + 6% of Van and 29 + 6% for Tel. The fetal/maternal concentration ratio of Van at the end of experiment was 0.16 + 0.06 and for Tel 0.097 + 0.03 (p < 0.05). This data suggest low transfer of the two antibiotics to the fetal circuit. The transfer of Van and Tel in the Maternal-to-Fetal direction was normalized to that of AP and did not reveal a significant difference with their transfer in the Fetal-to-Maternal direction. In addition, neither Van nor Tel was metabolized by the tissue during the perfusion period.

CONCLUSION: The data obtained using the dual perfusion model system revealed lower transfer of Tel than Van across human placenta.