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Abstract (poster session)

Waddlia chondrophila: a role in human miscarriage

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Background: *Waddlia chondrophila*, an intracellular bacterium first identified in bovine abortion, is also suspected to be associated with human adverse pregnancy outcomes. Indeed, a serological association was found between the presence of anti-*Waddlia* antibodies and human miscarriage. However, direct demonstration of *Waddlia* in human placenta or vaginal samples has not yet been reported. Methods: To confirm this observation, we collected placenta, vaginal swabs and sera from women with and without miscarriages. Serologies as well as PCR and immunochemistry were performed on these samples. Results: Serological analysis confirmed an association between presence of *Waddlia* IgG antibodies and miscarriage with a prevalence of 23.2% among patients with miscarriage and 14.6% among patients without miscarriage (p-value=0.044). Six patients exhibited presence of *Waddlia* IgM antibodies, without statistical significance between miscarriage's and control's groups. A total of 32 patients exhibited a positive PCR in placenta (n=11) or in vaginal swabs (n=21). Moreover, immunohistochemistry revealed the presence of *Waddlia* in 3 placentas, two of them being from patients with miscarriage. In multivariate logistic regression models, only ethnicity remains associated with serological evidence of *Waddlia* infection. *Waddlia* IgG positive serology was not associated with contact with animal, age, social status or *Chlamydia trachomatis* seropositivity. Conclusions: These results strongly suggest a role of *Waddlia chondrophila* in human miscarriage. Diagnosis and treatment of *Waddlia* infection might help prevent miscarriage, the most frequent complication of human pregnancy.