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Does ureaplasma infected sperm cause subsequent intrauterine infection or inflammation in the pregnant ewe?

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Background: *Ureaplasma* species are the most frequently isolated microorganisms from amniotic fluid (AF) in cases of preterm birth. We investigated the ability of ureaplasmas to colonize the intrauterine environment in ewes, infect the fetus and alter fetal development when they are present the time of conception.

Methods: Vaginal swabs were completed, ewes artificially inseminated using aliquots containing 10^8 ram sperm and either 5×10^7 colony forming units (CFU) of *Ureaplasma parvum* serovar 3 (n=29) or serovar 6 (n=12) or media control (n=16). At 55 days of gestation (d, term ~150 days) ewes were scanned to determine pregnancy outcome and AF aspirated to determine ureaplasma colonization. At 125 d, fetuses were delivered by Caesarean section. AF and umbilical arterial blood samples were collected, fetal body weight recorded and a descending pressure volume curve constructed after lung inflation to 40 cm H₂O. Fetal membranes were fixed with 4% paraformaldehyde, paraffin embedded, stained and viewed by light microscopy.

Results: All ewes were ureaplasma negative prior to artificial insemination. Conception rates (40-50%) were not different between ewes artificially inseminated with either *Ureaplasma parvum* serovar 3 or 6 (ureaplasmas) or media. AF samples taken at 55d were ureaplasma negative. There was no affect on fetal body weights or in the fetal systemic inflammatory response. Fetal membranes were not inflamed, umbilical arterial blood gases at delivery were similar and lung compliance unaffected between groups.

Conclusions: Ureaplasma exposure at the time of conception did not cause intrauterine inflammation or have any deleterious effects on the fetus.