

Title: Antibodies to *Chlamydia trachomatis* and *Mycoplasma genitalium* in early childhood

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Keywords:

Chlamydia trachomatis; *Mycoplasma genitalium*; STIs; offspring; trans-placental transfer

Abstract:

Sexually transmitted infections (STIs) caused by *Chlamydia trachomatis* (*Ct*) and *Mycoplasma genitalium* (*Mg*) can have significant implications during early childhood. This study aimed to assess maternal antibodies to *Ct* and *Mg* in newborns, their vanishing and offspring's own seroconversion to these pathogens during the first three years of life.

Altogether, 309 mother-neonate pairs originally enrolled in the prospective Finnish Family HPV (FFHPV) cohort study, at Turku University Hospital, Finland, were analyzed for serum IgG-antibodies to plasmid protein gene 3 (pGP3) for *Ct* and *Mg* protein of adhesion (MgPa) and recombinant MgPa (rMgPa) for *Mg* using multiplex serology, by serial sampling during a three-year follow-up.

A significant correlation between maternal and neonate antibodies to both *Ct* and *Mg* was evident up to two months after birth, and to *Ct* also at six months ($p < 0.001$). During the first three years of life, three children seroconverted IgG antibodies to *Ct* and one to *Mg*. At the last (36-month) follow-up visit, five (2.1%) children were seropositive for *Ct* and only one (0.4%) to *Mg*.

Both *Ct* and *Mg* IgG-antibodies are transferred from the mother to her offspring during pregnancy similarly as shown nearly for all maternal IgG antibodies. Seroconversion for both *Ct* and *Mg* in early childhood can be of specific importance as it might be part of the evidence needed to assess sexual abuse. Further studies are required to elucidate the significance of *Ct* and *Mg* antibodies acquired in early life.