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# STRATEGIES FOR EXTENDED *CHLAMYDIA TRACHOMATIS* SEROLOGY IN INFERTILE PATIENTS: A CLINICAL EVALUATION OF *CHLAMYDIA TRACHOMATIS* MOMP-, CHLAMYDIAL 60KD HEAT SHOCK PROTEIN AND HUMAN HSP60 SEROLOGY

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Tubal infertility is an important cause of female infertility and a frequent reason for IVF treatment. Several studies have shown that tubal infertility is mainly caused by *Chlamydia trachomatis* (*C. t.*) and triggered by immune pathologies. Chlamydial heat shock proteins, mainly the 60kD chlamydial heat shock protein (chsp60) represent important immunogenic antigens. It has been shown that the severity of a chlamydial infection and the resulting sequelae are associated with this antigen. The aim of this study was to correlate well established serological markers of chlamydial serology (*C. t.*-MOMP) with only recently available parameters of chlamydial infection (chsp60 and human hsp60). An evaluation of a possible clinical applicability was performed.

Sera samples of female patients undergoing IVF treatment were assayed by ELISA for the presence of chlamydial MOMP IgG and IgA, chsp60 IgG and human hsp60 IgG antibodies (medac, Hamburg Germany). All patients were symptom free. No acute chlamydial or other infection was present. The following groups were investigated:

- 99 patients with occluded tubes undergoing IVF treatment
- 99 patients with male factor infertility and open tubes undergoing ICSI treatment
- 50 patients with miscarriage after IVF treatment
- 44 patients with miscarriage after ICSI treatment
- 19 patients with ectopic pregnancy after IVF treatment

Both chlamydial MOMP- and chsp60 antibodies were most prevalent in patients with tubal factor infertility ( $p < 0.001$ ). The combined presence of chlamydial MOMP and chsp60 correlated with the occurrence of miscarriage and ectopic pregnancy.

The detection of chlamydial MOMP IgG antibodies in IVF patients reflects the already established high predictive value of this antibody with tubal occlusion. Additional risk factors following IVF treatment like miscarriage and ectopic pregnancy can be characterized by the combined measurement of chsp60 and MOMP antibodies.