ABSTRACT

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Title : The Effect of Chlamydial Infection upon Progesterone-sensitive Genes in Endometrial Cells

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Chlamydia trachomatis is considered to be the most commonly diagnosed treatable bacteria causing sexually-transmitted infections. *C. trachomatis* serovar E is one of the most prevalent strains of chlamydia among other urogenital infections-causing strains. On the other hand, *C. trachomatis* serovar L2 is considered to be less common, however more invasive, due to their nature of causing systemic infections and more rapid-growing than other serovars. Progesterone is a steroid hormone known to be capable of reducing the infectivity of *C. trachomatis.* Thus, in this study, we investigated the effect of *C. trachomatis* serovar L2 and serovar E infection upon the expression of progesterone-sensitive genes PGR, IL-8, TGFBR3, and TGFB1, and their interaction with progesterone in endometrial epithelial cells. Ishikawa cell line was grown in the presence of progesterone and *C. trachomatis* serovar L2 or serovar E *in vitro* and the results were analysed using RT-PCR. Our findings suggest that the interaction between progesterone and chlamydial infection induces the expression of IL-8 and TGFBR3. We therefore conclude that the interaction between *C. trachomatis* serovar L2 and progesterone can induce the immune response through IL-8 upregulation and may induce indirect regenerative healing response by upregulating the expression of TGFBR3.

Keywords: chlamydia trachomatis, progesterone, endometrium, epithelial cells, STI