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Poster Presentations

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Bacteriospermia and its association with seminal fluid parameters and infertility

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Background: *Chlamydia trachomatis* (*C. trachomatis*), *Ureaplasma urealyticum*, *Ureaplasma parvum* (*U. parvum*), *Mycoplasma hominis* (*M. hominis*) and *Mycoplasma genitalium* (*M. genitalium*) are among the most prevalent sexually transmitted bacteria. The impact of these bacteria on semen quality and their role in male infertility remains a controversial issue.

Objective: This study was conducted to determine the prevalence of bacteriospermia in infertile and fertile men and evaluate the correlation between the presence of these bacteria with infertility and semen quality.

Materials and Methods: In this cross-sectional study, 100 infertile and 100 fertile men attending to the research and clinical centers for infertility in Kerman, Iran were enrolled from July to December 2019. Semen analysis was performed using the methods

outlined by the World Health Organization. Polymerase chain reaction was used for detection of *C. trachomatis*, *Ureaplasma urealyticum*, *U. parvum*, *M. hominis*, and *M. genitalium*. Then the correlation between the presence of mentioned bacteria with infertility and the semen quality was evaluated.

Results: There was a significant difference in the presence of *M. genitalium* and *C. trachomatis* between infertile and fertile men ($p = 0.003$). The mean values of volume, progressive motility, non- progressive motility, sperm concentration, total progressive motility and viability were significantly lower in infertile men than in fertile ones ($p < 0.05$). Statistically significant correlations were observed between the presence of *M. genitalium* and progressive sperm motility ($p = 0.04$), the presence of *M. hominis* and semen volume ($p = 0.03$), contamination with *U. parvum* and the normal form of sperm ($p = 0.02$) and finally between the presence of *C. trachomatis* and the progressive motility of sperm as well as sperm viability ($p = 0.03$). Logistic regression analysis showed that the presence of *M. genitalium* (OR = 8.06, $p = 0.007$) and *C. trachomatis* (OR = 16, $p = 0.016$) was significantly associated with infertility in men.

Conclusion: According to these results, clinician should consider *C. trachomatis* and *M. genitalium* in men with decreased sperm progressive motility and viability during the infertility assessment.

Key words: *Chlamydia trachomatis*, *Ureaplasma*, *Mycoplasma hominis*, *Mycoplasma genitalium*, Infertility, Sperm quality.