The comparison of bacterial infection effects on semen parameters and assisted reproductive outcomes in infertile men

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Abstract

Semen analysis is one of the most important methods that reflects the fertility potential of men. Many factors lead to infertility in men, among which urogenital bacterial infections seem to play an effective role. Therefore, this study was planned to evaluate the frequency of bacterial infection in men with different infertility factor. Then, the effect of bacteriospermia was studied on the basic semen parameters and assisted reproductive outcomes. In this study, 98 semen samples from infertile men with male-factor infertility were collected. The semen samples were analyzed based on World Health Organization (WHO) criteria and categorized to four groups with male factor infertility. About 0.5-1 mL samples were prepared and used to inject into oocytes. To evaluate bacterial infection, the remaining samples were transported to microbiological laboratory during 1 hour to culture using standard bacteriological techniques. The bacterial infections such as E. coli (12.24%) and Staphylococcus saprophyticus (28.57%) were detected in 40.81% of the cultured samples. The basic semen parameters such as concentration, progressive motility, viability (p<0.05), and normal morphology (p<0.01) of sperms were decreased in the samples with bacterial infections. The clinical pregnancy was also decreased in the bacteriospermia groups (p<0.05). In conclusion, the presence of bacteriospermia could influence basic semen parameters and assisted reproductive outcomes, subsequently.

Keywords: Bacteriospermia, Clinical pregnancy, Intracytoplasmic Sperm Injection, Semen parameters.