

Negative Influence of *Staphylococcus aureus* on Sperm Motility in Infertile Male

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Background & Objectives: Genitourinary infections can impair function and fertilizing potential of spermatozoa and may play a contributing role in male factor infertility. Bacteria affect sperm motility by adherence, agglutination and dialyzable factors. *Staphylococcus aureus* probably represents the most frequently isolated microorganism in genitourinary infections. The presence of this bacteria in semen may decrease sperm motility. The aim of this study was to explore the influence of *Staphylococcus aureus* on the motility of human spermatozoa and contribution of this bacterial to male infertility.

Methods: *Staphylococcus aureus* were isolated from semen samples. Equal volumes of semen samples (40 x 10⁶ spermatozoa ml⁻¹) and different concentration of bacterial cell culture (10⁶, 10⁷ cells ml⁻¹)/washed cells/cell free supernatant were mixed and incubated at 37°C for 30 min, 1, 2, 3h. As a control, a sterile growth medium was used. Killing of bacteria was carried out by using heat treatment. Aliquots of 2 ml of 72h old culture of *Staphylococcus aureus* were exposed to 100°C for 30 minutes.

Result: The live pathogenic *Staphylococcus aureus* decreased the sperm motility and viability by agglutination immediately after inoculation and effect increases as the time of incubation increases. Further, completion of incubation at 3 h the percentage of motile spermatozoa left is 11% that is very low as compared to control. This shows that *Staphylococcus aureus* may be carrying some adhesion sites through which it binds to human spermatozoa and causes agglutination.

Conclusion: *Staphylococcus aureus* isolated from the semen of infertile male causes agglutination and immobilization of human spermatozoa and thus, leading to infertility.

Keywords: *Staphylococcus aureus*; Infertile Male; Sperm Motility