IDENTIFYING FACTORS IMPACTING THE RECOVERY OF TOTAL MOTILE SPERM AFTER SEMEN PREPARATION FOR INTRAUTERINE INSEMINATION
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Intrauterine insemination (IUI) is one of the most commonly used modalities for treatment of infertility. Identifying specific characteristics of spermatozoa that influence the amount of sperm recovered after a density gradient wash could alleviate financial, social and emotional problems associated with failed IUI attempts. The aim of our study was to determine which semen parameters promote a consistent and higher recovery of motile sperm in an individual patient using double density gradient method. Laboratory results of 242 patients presenting to our clinical laboratory from 2002 to 2003 were reviewed. Pre- and post-double density separation semen parameters were obtained from 477 patient samples. Semen parameters included abstinence time, volume, viscosity, sperm concentration, total sperm count, motility, total motile sperm, round cell concentration, presence of white blood cells, velocity and amplitude of lateral head displacement. Data was categorized into normal and abnormal semen parameters, based on WHO guidelines. Comparison of post-wash total motile sperm ($X10^6$) between patients with normal semen parameters [median (25th, 75th percentiles)] [54.5 (30.7, 106.7)] and patients with abnormal semen parameters [4.4 (3.3, 15.9)] showed significant differences ($P < 0.0001$). Post-wash total motile sperm between patients with normal or low viscosity [45 (20.9, 93)] and patients with moderate or high viscosity [28.3 (17.45, 52.55)] was significant ($P = 0.04$). Although most of the semen parameters had statistically significant influence on the recovery of motile spermatozoa, the correlation between these parameters and the recovery of motile sperm lacked predictive capability. We conclude that both abnormal count and motility, and abnormal viscosity affects post-wash total motile sperm. These factors should be taken into consideration when selecting semen samples for IUI.