EVALUATION OF SPERM PREPARATION MEDIA FOR OPTIMUM SPERM QUALITY
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In assisted reproduction, spermatozoa must be effectively separated from seminal plasma because separation permits capacitation, a prerequisite for successful fertilization. Percoll was recently withdrawn from the US market because of safety concerns. This study evaluated the quality of sperm separated by two different media and compared it to quality after separation on a Percoll gradient. Semen characteristics from 10 normozoospermic men were compared after sperm separation on three media: a Percoll-type medium (Perwash, Conception Technologies, La Jolla, CA), Isolate (Irvine Scientific, Santa Ana, CA), and SpermFertil (Embryotech Laboratories, Inc., Wilmington, MA). Semen characteristics examined were: sperm count, percentage motility, curvilinear velocity, lateral head displacement, percentage recovery of motile sperm, viability, hypo-osmotic swelling, and penetration in bovine cervical mucus. Sperm morphology was scored using WHO and Kruger's strict criteria. Sperm motility was examined at 0 minutes to 180 minutes after sperm separation on three media to assess which method retained motility for the longest period. Total motile sperm count, motility, velocity, percentage of normal morphological forms as determined by the WHO method decreased significantly in specimens prepared by SpermFertil compared to Isolate or Perwash separation (P<0.05). Tail abnormalities were significantly higher in specimens prepared by SpermFertil as compared to Isolate and Perwash (P<0.001). Percentage recovery of motile sperm was significantly higher in Isolate and Perwash compared to SpermFertil (P<0.05). Semen characteristics were similar in specimens prepared with Isolate or Perwash. Sperm motility was higher in Isolate and Perwash specimens at all time intervals compared to SpermFertil (P<0.001). In conclusion, SpermFertil separation produced poorer quality sperm compared to Isolate or Perwash separation. This finding and the similarity in the sperm preparation procedures suggests that Isolate is a good alternative to Percoll type media to prepare sperm for assisted reproduction.