NOVEL SEMEN QUALITY SCORES CAN PREDICT PREGNANCY IN PATIENTS WITH MALE FACTOR INFERTILITY UNDERGOING INTRAUTERINE INSEMINATION.

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Individual semen parameters are ineffective in predicting pregnancy outcome in patients with male factor infertility undergoing superovulation/intrauterine insemination (SO/IUI). Using principal component analysis, semen characteristics can be reduced into 2 scores: Semen Quality (SQ) and Relative Quality (RQ). SQ utilizes (concentration, motility, WHO and Kruger morphology, curvilinear velocity, straight-line velocity, linearity, and amplitude of lateral head displacement) into a single score of overall semen quality and quantity. It gives greatest weight to sperm concentration. RQ represents the quality of motility, morphology, and motion parameters after adjusting for concentration. Our objective was to determine if these 2 scores can be used effectively in predicting pregnancy in patients undergoing SO/IUI for male factor infertility. We reduced 8 semen characteristics into 2 semen scores. Both scores are scaled to a mean of 100, SD of 10. We applied these semen scores to male factor patients undergoing SO/IUI. Pre- and post-wash semen analysis results from 192 SO/IUI cycles of 93 male factor patients were used to calculate SQ & RQ scores. Repeated measures GEE logistic regression was used to evaluate their relationship with pregnancy. Of the 192 cycles, 27 (14%) resulted in pregnancy. The increased likelihood of pregnancy was related to increased RQ (p<0.001) and SQ (p=0.02), using the pre-wash semen scores. Using post-wash scores, only RQ (p <0.001) was related to outcome. Of the SO/IUI cycles in which post-wash RQ was >125, 40% resulted in pregnancy, opposed to 9% of cycles with RQ <125. Prewash SQ & RQ are positively correlated with pregnancy in patients undergoing SO/IUI. Postwash RQ scores >125 appear to be more important in predicting pregnancy in SO/IUI setting. These novel scores provide quick, simple, and reliable tools in predicting pregnancy in patients undergoing SO/IUI for male factor infertility.