Pyospermia effect on sperm motility dynamics and chromatin integrity

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Abstract:

Background: Pyospermia is a common finding in infertile men with controversial issues about its significance. Objective: To evaluate the effect of pyospermia on computerized semen (CASA) parameters, sperm DNA integrity, and chromosomal aneuploidy in infertile men. Subjects: The study included 50 infertile men with oligoasthenoteratozoospermia divided into 2 groups according to the presence or absence of pyospermia. Methods: The study included clinical evaluation, peroxidase stain, CASA, sperm DNA evaluation with acridine orange test, and sperm FISH analysis of 18, x, and Y chromosomes. Main outcome measure: Comparison between the infertile men with and without pyospermia in sperm CASA parameters, DNA fragmentation with acridine orange test, and aneuploidy by FISH. Also, to correlate between the number of pus cells and these parameters. Results: Infertile men with pyospermia had significantly lower sperm progressive and total motility percentages. Also, dynamic motility parameters by CASA, including curvilinear, straight line, average pathway velocities, straightness, and amplitude of lateral head displacement were significantly lower with pyospermia. Sperm DNA fragmentation index by AOT was significantly higher with pyospermia. Percentages of sperms with disomy XY and 18 by FISH were higher with pyospermia. These changes in sperm motility parameters and DNA integrity correlated with the number of peroxidase positive leukocytes. Conclusions: Pyospermia has a negative impact on sperm motility parameters and DNA integrity regardless of infertility as a cofactor.

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