

CORRELATION OF SPERM DNA DAMAGE AND PREGNANCY OUTCOME IN PATIENTS UNDERGOING ICSI.

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Introduction and Objectives: Sperm DNA integrity is essential for the transmission of genetic information. Any form of sperm chromatin abnormalities or DNA damage may result in male infertility. Comet test can measure single and double strand breaks of DNA in spermatozoa. The aim of our study was to examine the predictive value of sperm DNA fragmentation by comet assay with ICSI outcome. **Methods:** 21 semen samples of infertile patients undergoing ICSI were tested. Sperm DNA damage was analyzed by Comet test (single cell gel electrophoresis). DNA fragmentation was classified as mild, moderate and severe according to the tail moment. **Results:** The mean \pm SD for mild, moderate and severe DNA damage was 42.05 ± 15.52 , 36.19 ± 8.43 and 20.62 ± 17.43 respectively. Significant differences ($P < 0.001$) were seen between mild and severe DNA damage. When ICSI outcome was examined, high positive correlation was seen between mild DNA damage and pregnancy rate ($r = 0.495$; $P < 0.001$). High negative correlation was also seen between severe DNA damage and pregnancy rate ($r = -0.485$; $P < 0.001$). No significant correlation was found between moderate sperm DNA fragmentation and pregnancy rate. **Conclusions:** Assessment of sperm DNA fragmentation by comet assay has a higher predictive value for ICSI outcome in mild and severe DNA damage but not in those with moderate damage.