Title: Effect of sperm chromatin integrity on the embryo quality following ICSI
Objective: DNA cytometry could differentiate damaged (sub-haploid) sperm from mature condensed haploid sperm, while aniline blue (AB) test indicates deficient DNA protamination. AB test can differentiate between healthy (non-stained) and non-healthy (stained) sperm chromatin. The aim of our study was to evaluate and compare sperm chromatin status using these two techniques with the embryo quality in infertile couples undergoing ICSI for male factor infertility.

Design: Prospective study.

Materials and Methods: Semen samples from 42 infertile men with no female factor infertility. Routine semen analysis was done according to the WHO guidelines (1999). An aliquot of semen was used for ICSI procedure. Embryos were scored for morphological appearance. Pregnancy test was done 2 week after the embryos transfer. Sperm quality was assessed by DNA cytometry and Aniline blue staining.

Results: Good quality embryos showed significantly lower percentage of sub-haploid sperm compared to poor embryo quality group (p value = 0.02) (see Table).

Conclusions: Embryo quality after fertilization in ICSI can be affected by the sperm chromatin fragmentation. Aniline blue staining is unable to differentiate the sperm that will result in good equality embryos. Selecting sperm with higher sperm chromatin integrity will help in the improvement of embryo quality after ICSI.

Support: None