Ultrastructure of human spermatozoa subjected to different protocols of assisted reproduction

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In vitro fertilization (IVF) is a form of Assisted Reproductive Technology (ART) used for treating infertility, a condition affecting an estimated 15% of the population. IVF usually involves controlled ovarian hyperstimulation, surgical oocyte retrieval, in vitro fertilization and embryo transfer. Intra-cytoplasmic sperm injection (ICSI) is commonly used as a treatment for male factor infertility where semen parameters are poor, when sperm has been surgically retrieved or following repeated failed fertilization with standard IVF (Kang Y.N. et al. 2018). Successful embryo development and subsequent pregnancy out-come are likely to be impacted by the quality of the sperm which fertilizes an oocyte (Sakkas 2000). Ideally only sperm with a high chance of successful fertilization and subsequent embryo growth would be used for ART. This presentation analyzed the ultrastructure of sperm subjected to different protocols of ART from a microscopic point of view, electron microscopy could contribute to exploring fertility mechanisms of patients with abnormal sperm morphology and provides the basis for clinical treatment.