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Award Winners

A-5

Sperm telomere length in infertile men with previous failed fertilization post- ICSI

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Background: Intracytoplasmic sperm injection (ICSI) technique is used mostly for the treatment of male infertility. However, failed fertilization was observed in a litter percentage of infertile couples post- ICSI. Several factors such as abnormal sperm quality, DNA fragmentation, low or absence of sperm factors involved in oocyte activation are associated with failed fertilization post- ICSI. Sperm telomere length is one of the sperm factor at the end of the eukaryotic chromosomes that protects chromosomes from damage and positive significant correlation was observed between this parameter with sperm DNA fragmentation.

Objective: In the light of these considerations, we aimed to assess sperm telomere length and DNA fragmentation in infertile men with previous failed fertilization post-ICSI.

Materials and Methods: In this study, semen and blood sample were obtained from 10 infertile men with a failure in ICSI fertilization and 10 fertile as a control group.

Telomere length was evaluated both in sperm and blood samples by Realtime-PCR. Finally, Independent *t* test, and the correlation coefficient were used for analysis of data.

Results: Mean of sperm and blood telomere length were significantly shorter in infertile with previous failed fertilization compared to fertile men ($p < 0.05$). Moreover, in infertile men, percentage of sperm DNA fragmentation was significantly higher than fertile men ($p = 0.01$). In addition, we observed a significant correlation between sperm telomere length with fertilization rate ($p < 0.05$).

Conclusion: In this study, for the first time, we showed in infertile men with previous failed fertilization, sperm telomere length was low. Therefore, the reduction of sperm telomere length as one of sperm factors could associated with low fertilization potential.

Key words: Sperm telomere, DNA fragmentation, ICSI, Failed fertilization.

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