

ABSTRACT

Key words:Varicocele, Sperm DNA fragmentation, Sperm chromatin dispersion test, DNA fragmentation index (DFI).

The aim of the study is to evaluate the effect of varicocele on DNA fragmentation index using Halosperm kit®.

Patients and methods: This study was carried out on **Group 1:** Fifty infertile male patients with palpable varicocele grade II or III.

Group 2: included 25 infertile patients without varicocele. **Group**

3: Included 25 fertile men with palpable varicocele with recent fertility during the last year. **Group 4:** Included 25 fertile men without palpable varicocele with recent fertility during the last year.

Results: patients with palpable varicocele showed statistically significant lower sperm density, total sperm motility, and sperm progressive motility compared with controls, whereas the two groups showed similar seminal volume, sperm abnormal forms and seminal concentrations of leukocytes with no statistical difference. The mean frequency of sperm cells with fragmented DNA was 30.56 ± 15.03 in the patients with varicocele. This was 1.5 times higher than that obtained in the fertile subjects (23.8 ± 16.8) ($P.004$). There was a statistically significant difference between DNA fragmentation index in infertile patients with

palpable varicocele (group 1) and normal fertile subjects without palpable varicocele (group 4). Also, there was a statistically significant difference between DNA fragmentation index in infertile patients without palpable varicocele (group 2) and normal fertile subjects without palpable varicocele (group 4).

Conclusion: increased DNA fragmentation in the sperm of men with varicocele, suggesting that certain apoptotic mechanisms might relate to the condition of varicocele even in the presence of normal sperm parameters. Sperm DNA damage, independent of its cause, may affect the quality of the ejaculated spermatozoa and may have implications on their fertility potential.