

HUBUNGAN LEUKOSIT SEMEN DAN MORFOLOGI SPERMA TERHADAP FRAGMENTASI DNA SPERMA LAKI-LAKI INFERTIL DI RSIA SAMMARIE BASRA TAHUN 2022

Abstrak

Pemeriksaan sperma pada laki-laki infertil lebih sering ditemukan fragmentasi DNA daripada laki-laki non-infertil. Fragmentasi DNA (FDs) sperma sering terjadi pada kasus laki-laki dengan infeksi urogenital yang ditandai dengan kenaikan jumlah leukosit semen dan terjadi pada laki-laki dengan gangguan spermiogenesis. Spermiogenesis meliputi proses pembentukan morfologi sperma dan pengemasan DNA sperma, maka gangguan pada proses ini dapat menyebabkan abnormalitas morfologi dan peningkatan fragmentasi DNA. Penelitian bertujuan untuk mengetahui hubungan leukosit semen dan morfologi sperma terhadap fragmentasi DNA sperma. **Metode:** Data diambil dari 53 pasien yang mengalami infertilitas primer dan sekunder yang melakukan pemeriksaan analisis semen dan fragmentasi DNA sperma pada Januari hingga Desember 2022. Pemeriksaan fragmentasi DNA sperma dilakukan menggunakan metode *Sperm Chromatin Dispersion* (SCD). Desain studi yang digunakan adalah potong lintang. **Hasil:** terdapat hubungan signifikan morfologi sperma terhadap FDs ($r_s = -0.314$, nilai $p < 0.05$), namun tidak terdapat hubungan signifikan leukosit semen terhadap FDs. **kesimpulan:** peningkatan morfologi sperma normal, namun tidak dengan leukosit semen, dapat diasosiasikan dengan penurunan FDs.

Kata kunci: Fragmentasi DNA sperma, infertilitas, leukosit semen, morfologi sperma

**ASSOCIATIONS BETWEEN SEMINAL LEUKOCYTE AND
SPERM MORPHOLOGY WITH SPERM DNA
FRAGMENTATION OF INFERTILE MALES IN SAMMARIE
BASRA WOMEN'S AND CHILDREN HOSPITAL 2022**

Abstract

*In comparison to non-infertile males, infertile males' sperms are more frequently found to have DNA fragmentation during examinations. Sperm DNA fragmentation (sDF) often occurs in cases of individuals with urogenital infections which are characterized by an increase in the number of seminal leukocytes and occurs in men with impaired spermiogenesis. Spermiogenesis involves the formation of sperm morphology and the packing of sperm DNA; therefore, disruptions in this process can result in aberrant morphology and increased sDF. This study aimed to determine the relationship between seminal leukocytes and sperm morphology on sperm DNA fragmentation. **Methods:** Data were collected from 53 patients with primary and secondary infertility who underwent semen analysis and sperm DNA fragmentation examination from January to December 2022 in SamMarie Basra Women's and Children's Hospital. Sperm Chromatin Dispersion (SCD) was used to evaluate sDF. The design of this study was cross-sectional. **Results:** there was a significant correlation between sperm morphology and sDF ($rs=-0.314$, $p<0.05$), however, seminal leukocytes and sDF were not significantly correlated. **Conclusion:** An increase in normal sperm morphology, but not seminal leukocytes, can be associated with a decline in sperm DNA fragmentation.*

Keywords: *Sperm DNA fragmentation, infertility, seminal leukocyte, sperm morphology*