The effect of hodgkin's disease on fertility

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Cryopreservation of sperm in patients with Hodgkin's disease yields a lower recovery rate as compared to normal, fertile men. Although, poor sperm quality and subfertility have been associated with Hodgkin's disease, there is still confusion, whether the disease "per se" has a specific effect on the gonadal function. Evaluation of semen parameters after conducting chemotherapy or radiation therapy is responsible for this controversy in previous studies. The purpose of this study was to investigate the pre-treatment sperm quality in patients with Hodgkin's disease.

Methods
The pre-freeze semen analysis results of 72 specimens obtained from 40 patients with Hodgkin's disease and 32 normal volunteer who were referred for sperm banking over a 3-year period were analyzed for this study. None of the patients had undergone chemotherapy or radiation therapy at the time of sperm banking. Pre-freeze motile sperm count and motion parameters (motility, velocity, linearity, ALH, motility index) were analyzed and compared between the two groups.

Results
There were no significant differences in semen volume between patients and donors. The mean pre-freeze motile sperm count in patients was 20.4±23.8 X10^6 as compared to 60.4±52.5 X10^6 in donors (p<0.001). The mean motility was 41.6±16.5 in patients and 57.4±19 in donors specimens. The differences were statistically significant (p=<0.001). Similarly, there were significant differences in velocity (P=0.003) and ALH (P=0.002). No significant differences were found in linearity between the groups.

Conclusions
These results illustrate that poor semen quality seen in patients with Hodgkin's diseases is independent of chemotherapy or radiation treatment. Low pre-treatment motile sperm count in patients with this disease indicate decreased spermatogenesis.