IVF WORLDWIDE ONLINE CONGRESS

Relationship between Semen Parameter, Paternal Age and SDF

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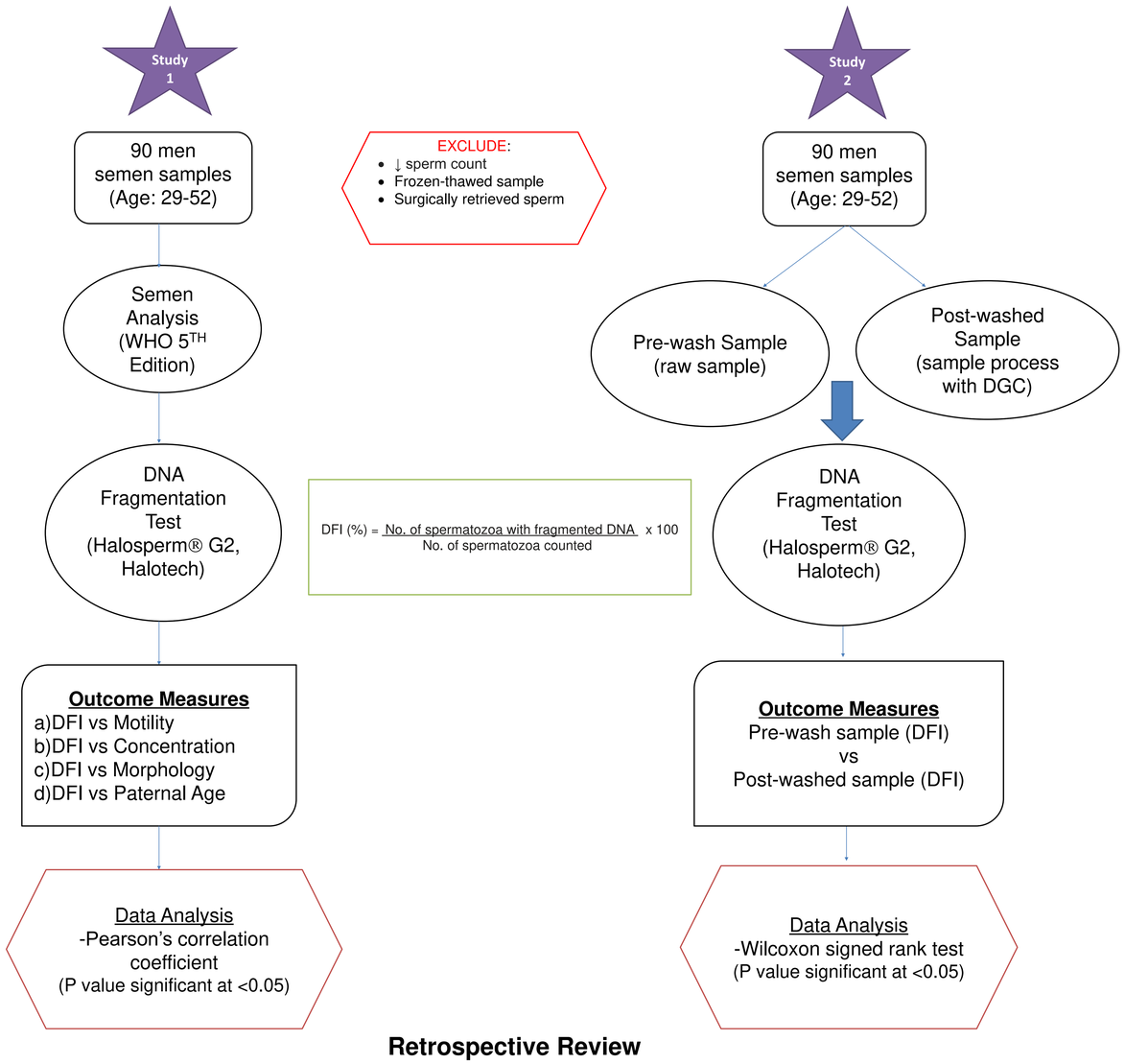
INTRODUCTION

1 in 8 couples have fertility issues, 20-30% of which are due to male factors. The conventional semen analysis established by World Health Organization (WHO) evaluates the sperm parameters such as sperm count, motility and morphology. While semen analysis is the most common test for male infertility diagnosis, semen analysis alone is not sufficient to assess the male fertility potential and reproductive outcomes. Studies have shown that sperm DNA damage may contribute to poor reproductive outcomes. In addition, some research found that infertile men have increased DNA fragmentation despite having normal semen analysis results. This led to our interest to explore the relationship between DNA fragmentation index (DFI) and semen parameters (concentration, motility and morphology); DFI and paternal age in this study. Also, sub-study was conducted to evaluate if there is any impact of density gradient centrifugation (DGC) on sperm DNA integrity.

MATERIAL & METHOD



Retrospective Review

RESULT

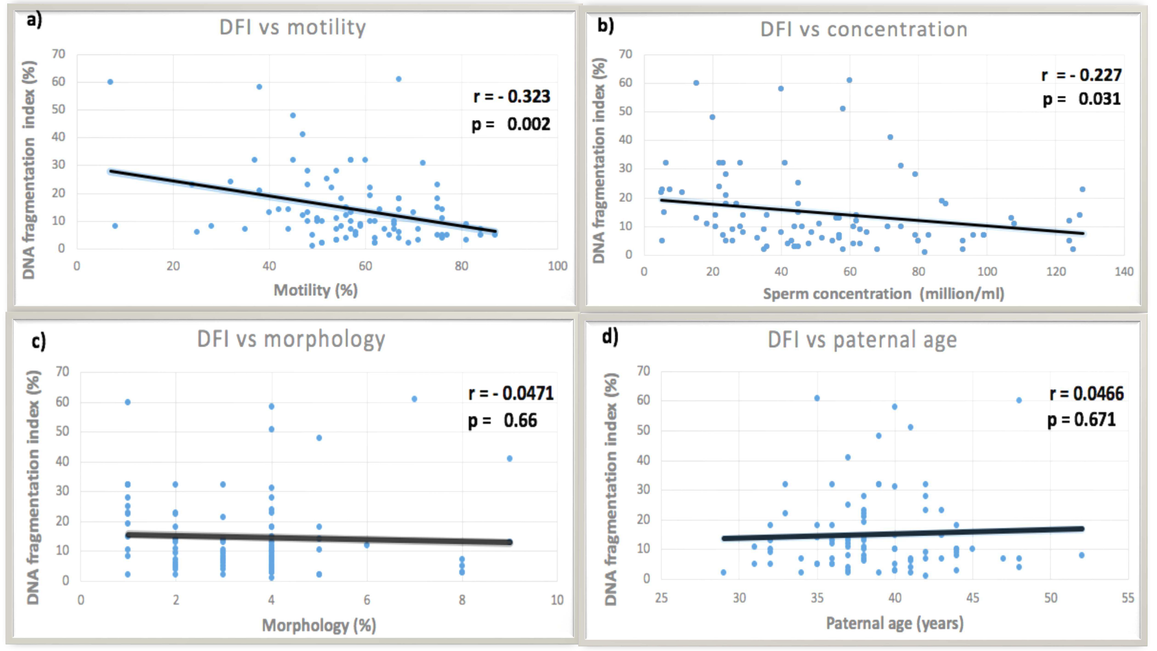


Figure 1. Correlation between DNA fragmentation index (%) and four different variables in 90 semen samples, (a) motility (b) sperm concentration (c) morphology (d) paternal age.
Note: Pearson's correlation coefficient (r), p value significant at <0.05

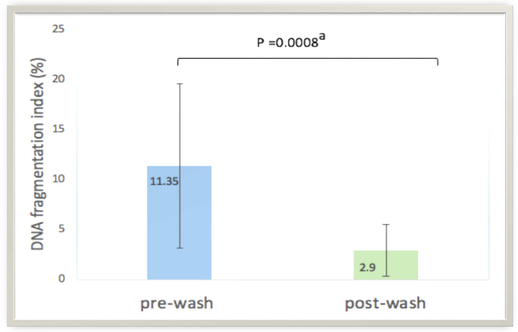


Figure 2. Comparison of DNA fragmentation level for raw and after processing with density gradient centrifugation sample. DFI of post-wash sample was significantly lower compared with pre-wash sample (2.9±2.6 vs 11.35±8.2, p=0.0008).
Note: [a] Wilcoxon signed ranked test, p value significant at <0.05

CONCLUSION

There is moderate correlation between SDF and sperm motility. DNA fragmentation may serve as adjunct test to semen analysis. However, randomised controlled trial is required to confirm the clinical value of DNA fragmentation test, as well as which group of patients should be offered and benefit most from this test. Our study also showed that sperm processing by DGC does not lead to higher DNA fragmentation. Instead, SDF is significantly improved after processing.

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