5.7 Seminal Fructose Corrected for Motile Sperm Count is a Better Marker for the Evaluation of Seminal Vesicles Function.

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ABSTRACT

Introduction: Assessment of seminal plasma fructose in relation to seminal vesicles (SVs) function or semen quality is controversial. Majority supported the futility of assessing fructose levels in relation to SVs function or semen quality. One study has been reported that fructose corrected for motile sperm concentration is a better marker for evaluating SVs function. But there is no supportive evidence to prove this suggestion.

Objectives: The aim of this study was to determine a better marker for the evaluation of seminal plasma fructose in relation to SVs function and semen quality using two markers; total fructose in the ejaculate (TF) and corrected seminal fructose (CF), calculated as (log motile sperm count) x (total fructose), in a Sri Lankan male population.

Method: Semen samples were obtained from 152 men who attended the subfertility unit, Faculty of medicine, Ragama for semen analysis. Samples were analyzed for semen parameters. Seminal plasma fructose levels were measured using colorimetric method given in the WHO guidelines.

Results: Prevalence of hypofunction of SVs was 11 % using total fructose as a marker and 19 % using corrected fructose as a marker. Asthenozoospermia was observed in 5 % of males with abnormal TF levels (<13 μmol / ejaculate) and in 9 % of males with abnormal (low) CF levels. Volume, progressive motility, viability and morphology were significantly low in CF fructose abnormal samples (volume-2.0 Vs 2.9, motility-32.5 Vs 53.2, viability-60.3 Vs 72.7, morphology- 29.7 Vs 41.1, $p<0.001$), whereas only parameter significantly reduced in TF abnormal group was volume (1.5 Vs 2.9, $p<0.001$). Regression analysis showed a better coefficient of correlations between CF and sperm count ($r= 0.365$, $p<0.0001$) and, motile sperm count ($r=0.294$, $p<0.0001$). TF showed a weak positive correlation with sperm count ($r= 0.197$, $p<0.01$).

Conclusion: Corrected fructose is a better marker for studying seminal vesicles function and their relationship with semen parameters.

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