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**Nitric oxide level in seminal plasma of fertile and infertile males and its correlation with sperm parameters**

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### Abstract:

Nitric oxide (NO) is a free radical molecule, produced by most cells and tissues in the body. The effect of NO on cells is concentration dependent. Low concentration of NO is essential in biology and physiology of most of cells, but high amounts of NO is toxic and has detrimental effects on cells. The role of NO in biology of male and female genital systems is under investigation. In the present study, the nitric oxide concentration was measured in the seminal plasma of both fertile and infertile males and compared with spermatogram parameters. For this purpose, semen samples were collected from 45 patients and 70 healthy donors. After analysis of samples, the stable metabolites of nitric oxide (nitrite and nitrate) were measured by Griess assay. The results indicated that the nitric oxide concentration in the seminal plasma of infertile males was significantly higher than controls. There was a significant negative correlation between the nitric oxide concentration and sperm motility and viability in infertile males. In conclusion, this study demonstrated that the level of nitric oxide in seminal plasma of infertile men was higher than that of fertile men. The increasing level of nitric oxide concentration in seminal plasma leads to the decrease in sperm motility and viability and affects fertility.

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