

Abstract

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Antioxidant activity of seminal plasma in fertile and infertile men.

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OBJECTIVE: This study was conducted to evaluate and compare the total antioxidant capacity among fertile and infertile men.

METHODS: Thirty infertile patients and 20 fertility-proven healthy donors with normal sperm analysis were included in the study. Total antioxidant capacity, zinc and fructose levels of seminal plasma, and various sperm parameters were compared among fertile controls and idiopathic infertility patients prospectively.

RESULTS: The mean antioxidant capacity of fertile controls (2.02 +/- 0.16 mmol/L) was significantly higher than that of the infertile patients group (1.78 +/- 0.23 mmol/L) ($p < .01$). Furthermore, asthenozoospermic and asthenoteratozoospermic groups had significantly lower mean antioxidant values (1.73 +/- 0.11 and 1.64 +/- 0.13, respectively) when compared to fertile control group ($p < .01$). The mean fructose level was significantly lower in the fertile control group and mean zinc level was significantly lower in the entire infertile group. On the other hand, antioxidant capacity is positively correlated to sperm motility ($p = .001$).

CONCLUSION: Decreased antioxidant capacity was associated with impaired sperm function as a result of either increased ROS production or insufficient antioxidant capacity.

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