

# **Semen parameters, serum testosterone, and oxidative stress in primary and secondary infertile men with varicocele**

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## **Abstract**

**Background:** The possibility of progressive effect of varicocele throughout lifetime and its role on the occurrence of secondary infertility is still debated.

**Purpose:** To assess semen parameters, seminal oxidative stress, and serum total and free testosterone levels in primary and secondary infertile men associated with varicocele.

**Patients and methods:** One hundred twenty infertile men with palpable varicocele classified into primary infertile men (N=84) and secondary infertile men (N=36) were investigated. They underwent history taking, clinical examination, scrotal ultrasonography to verify varicocele, semen analysis, seminal total antioxidant capacity (TAC), seminal malondialdehyde (MDA), and serum total and free testosterone levels.

**Results:** Compared with patients with primary infertility, patients with secondary infertility were older and had older partners. The mean semen volume, sperm count, sperm motility, and sperm normal morphology demonstrated nonsignificant differences between both groups. The mean seminal TAC, MDA, and serum total testosterone showed nonsignificant differences between patients with secondary and primary infertility, whereas serum-free testosterone was significantly decreased in the secondary infertile group than in the primary one. Varicocele grade had a significant negative correlation with sperm count, whereas seminal TAC had a significant negative correlation with seminal MDA.

**Conclusion:** There were no differences in semen parameters, seminal oxidative stress, or serum total testosterone between primary and secondary infertile men associated with varicocele.

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