

Assessment of seminal YKL-40 in infertile men with varicocele

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Andrologia 2020, Nov;52(10):e13756
DOI: 10.1111/and.13756

Abstract

Several studies attempted to explain the negative impact of varicocele on spermatogenesis and fertilization processes. YKL-40 is a novel glycoprotein biomarker that had been associated with several diseases. This quasi-interventional study aimed to assess the seminal levels of YKL-40 in infertile men with varicocele before and after varicocelectomy. Overall, 50 men were included in this study divided into 20 healthy fertile men and 30 infertile oligoasthenoteratozoospermic (OAT) men with varicocele that underwent varicocelectomy. All participants were subjected to history taking, clinical examination and scrotal Doppler. Also, semen analysis and seminal YKL-40 assessment were carried out in the start and 6 months after varicocele surgical repair. The results showed a significant increase in the mean seminal YKL-40 level in infertile OAT men with varicocele compared with the healthy fertile men. Six months postvaricocelectomy, the mean seminal KYL-40 level exhibited significant decreases correlated with improved sperm parameters. Overall, seminal levels of YKL-40 showed significant negative correlations with sperm concentration, total sperm motility and sperm normal morphology. It could be concluded that seminal YKL-40 is elevated in infertile OAT men with varicocele where varicocelectomy induces decreased seminal YKL-40 levels correlated with improved semen parameters.