

Insulin like-Growth Factor- I (IGF-I) and Prostate Specific Antigen (PSA) in blood and semen of infertile males

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Abstract

Insulin-like growth factor-I (IGF-I) is believed to be involved in the development of germ cells. IGF-I whose level is mainly controlled by concentration of growth hormone, induces cell proliferation and differentiation. Its action is mediated by Insulin-like growth factor binding-proteins (IGFBPs) and prostate-specific antigen (PSA). The aim of this case-control study was to evaluate serum and seminal plasma levels of IGF-I and PSA in idiopathic oligospermic and normospermic infertile males with simple random sampling. The case group was consisted of 29 infertile males with idiopathic oligospermia compared to 23 normospermic men with idiopathic infertility as control group. PSA and IGF-I were measured by immunoradiometric assay (IRMA). Comparison of sperm morphology, sperm count, serum and seminal plasma IGF-I and PSA between two groups were carried out using t-test. Sperm motility was compared between two groups by non-parametric Mann-Whitney test. Two-tailed test with $\alpha=0.05$ was the level of statistically significance. Results showed that mean IGF-I level in seminal plasma of oligospermic group were significantly lower than normospermic group ($p<0.01$). But, there were no significant differences in serum IGF-I and serum and seminal plasma PSA levels between two groups. We concluded that IGF-I and PSA might be considered as a mitotic and differentiation factor in development of male germ cells.

Key Words: Infertility, Infertile men, IGF-I, PSA, Seminal plasma, spermatozoa, Sperm.

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