Journal of Andrology, Vol 16, Issue 6 491-498, Copyright © 1995 by The American Society of Andrology

JOURNAL ARTICLE

Impaired secretory function of the prostate in men with oligo-asthenozoospermia

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The secretory function of the human prostate and the seminal vesicles is a prerequisite for gel formation and liquefaction of semen, but the relation to poor sperm motility and low sperm count in infertile men remains to be clarifyed. Our aim was to evaluate the secretory function of the prostate and the seminal vesicles in normozoospermic men (n = 35) and in asthenozoospermic men, who were all also oligozoospermic (n = 27). All 62 subjects belonged to couples undergoing routine infertility evaluation. In liquefied seminal fluid we measured the concentrations of fructose and protein C inhibitor (PCI) contributed by the seminal vesicles, PCI complexed to prostate-specific antigen (PSA), and the prostatic contribution of zinc, PSA, acid phosphatase (PAP), beta-microseminoprotein (beta-MSP), and Zn alpha 2-glycoprotein (Zn alpha 2-GP). The concentration of each prostatic secretory protein correlated significantly with that of zinc ($P < 0.01$) in both the normozoospermic (NZS) and oligo-asthenozoospermic (OAZS) subgroups, but the PCI concentration did not correlate significantly with that of fructose. There was no significant difference between the NZS and OAZS subgroups in ejaculate volume or secretory contribution from the seminal vesicles, whereas the OAZS subgroup was characterized by significantly lower secretory contributions of Zn alpha 2-GP ($P = 0.001$), Zn, PSA, PAP ($P < 0.01$), and beta-MSP ($P < 0.05$). The two subgroups did not differ significantly in the serum concentration of luteinizing hormone (LH), testosterone, or sex hormone-binding globulin (SHBG). The results thus suggest the secretory contribution of major prostatic proteins and zinc per ejaculate to be significantly decreased in oligo-asthenozoospermic men. The importance of this finding in relation to poor sperm count and motility as indicators of impaired gonadal function requires further investigation.

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