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Semen Quality of Men With Asymptomatic Chlamydial Infection

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We have shown previously that the in vitro exposure of spermatozoa to elementary bodies (EBs) of Chlamydia trachomatis can lead to sperm death over a number of hours of incubation. As such, we have hypothesized that the ejaculates of men with a chlamydial infection could contain increased numbers of nonmotile (dead) spermatozoa if they are exposed to EBs prior to ejaculation. To test this hypothesis, the ejaculates of 642 men undergoing diagnostic semen analysis as part of ongoing infertility investigations with their partner were examined. All men were without symptoms of genitourinary infections and semen analysis was performed according to World Health Organisation (WHO) 1999 methods after a 3-5 day abstinence period. In addition to semen analysis, nested plasmid polymerase chain reaction (PCR) was undertaken on the ejaculate to detect the presence of C trachomatis DNA. A total of 31 semen specimens (4.9%) were found to be positive, and in 28 of these, the diagnosis was confirmed using the ligase chain reaction (LCR). Men whose ejaculates were PCR positive for chlamydial DNA had a significantly ($P < .05$) higher mean concentration of leukocytes ($1.71 \pm 2.20 \times 10^6$ per mL) and a higher mean ejaculate volume (3.45 ± 1.52 mL) than in those whose ejaculates were PCR negative (leukocyte concentration: $0.67 \pm 2.59 \times 10^6$ per mL; volume 2.93 ± 1.38 mL). Leukocytospermia was twice as common in men that were PCR positive for chlamydial DNA ($P < .05$) but it was not always associated with the presence of chlamydial DNA in semen. However, there was no difference in the mean percent motility between the 2 groups and the proportion of asthenozoospermia also did not differ. Because these results do not confirm the hypothesis proposed from our in vitro experiments, further work needs to be undertaken to understand whether human spermatozoa are actually exposed to elementary bodies of C trachomatis in an infected individual prior to ejaculation.

Key words: Chlamydia trachomatis, infertility

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