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JOURNAL ARTICLE

The lack of effect of tumor necrosis factor-alpha, interleukin-1-alpha, and interferon-gamma on human sperm motility in vitro

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Whether cytokines present in human peritoneal fluid reduce sperm motility, and thus contribute to infertility, is investigated. The human recombinant cytokines, tumor necrosis factor-alpha, interleukin-1-alpha, and interferon-gamma, were incubated with motile human sperm obtained from fertile men and separated by the swim-up technique.

These cytokines, alone or in combination, in higher doses than those observed in vivo (greater than or equal to 25,000 U/ml), did not alter the percentage of motile sperm after 90 minutes, 24 hours, and 48 hours under standard culture conditions. Similarly, penetration of a column of bovine cervical mucus was unchanged after preincubation of the sperm with individual cytokines or combinations of several cytokines for 24 hours. In contrast to those given in previous reports, these data do not support a direct effect of tumor necrosis factor-alpha, interleukin-1-alpha, or interferon-gamma on sperm motility, and suggest that other soluble factors are responsible for the observed effects of peritoneal fluid on sperm motility in vitro.

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