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JOURNAL ARTICLE

Laser light-scattering study of the toxic effects of methylmercury on sperm motility

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An in vitro study was designed using the laser light-scattering technique to obtain further information on the dose-effect relationship of methylmercury on sperm motility. The technique provided a quantitative evaluation of sperm swimming speed. Semen samples were collected from normal male Macaca fascicularis monkeys by anal electroejaculation. Methylmercury was added to aliquots of sperm suspensions in BWW medium in doses of 10, 5, 2, and 1 ppm. After 3 hours, the relative speed was 35%, 59%, 69%, and 92% of the corresponding controls at doses of 10, 5, 2, and 1 ppm, respectively. The percentage of motile spermatozoa decreased significantly at 10 ppm. By microscopic observation abnormal motility was detected at 5 and 10 ppm, especially after 20 to 40 minutes. Head movement increased from side to side, and many spermatozoa developed coiled tails. The technique proved useful for defining the dose-effect relationship of methylmercury and sperm swimming speed.

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