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JOURNAL ARTICLE

Sperm creatine kinase activity in fertile and infertile oligospermic men

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The authors examined the value of sperm creatine-kinase (CK) activity parameters to predict sperm fertilizing potential of oligospermic men. Two patient groups from our intrauterine insemination program were studied: fertile oligospermic (32 men/46 specimens) and infertile oligospermic (19 men/82 specimens). In the initial specimens, the CK activities were (mean + SEM IU CK/10(8) sperm): 0.53 +/- 0.09 and 1.17 +/- 0.19 (P less than 0.001). The corresponding values in the swim-up fractions were 0.32 +/- 0.06 and 0.67 +/- 0.08 (P less than 0.001). In a subset of samples by fertile (N = 33) and infertile (N = 66) oligospermic men who had close to identical sperm concentrations (11.9 +/- 0.9 vs. 11.9 +/- 0.5 million sperm/ml) and motility values (23.7 +/- 1.7 vs. 23.0 +/- 1.3%), the CK activities were significantly lower in the fertile group in both the initial (P = 0.02) and in the swim-up (P = 0.002) samples. A logistic regression analysis of all 160 study samples (including 21 normal men/32 samples) further demonstrated that CK activities were predictive of fertilizing potential, whereas sperm concentrations of the samples provided no additional contribution. Sperm CK and similar biochemical markers will facilitate selection of men for various approaches in assisted reproduction.

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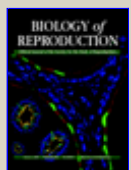
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