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Genotoxic Evaluation of the Antibacterial Drug, Ciprofloxacin, in Cultured Lymphocytes of Patients with Urinary Tract Infection

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Abstract: Ciprofloxacin is a quinolone carboxylic acid derivative and is commonly used in medicine. The genotoxicity of ciprofloxacin was evaluated in cultured human peripheral blood lymphocytes in patients with urinary tract infection. Sister chromatid exchange (SCE), mitotic index (MI) and replicative index (RI) were measured before and after ciprofloxacin therapy. Our results showed that SCE frequency significantly increased after ciprofloxacin therapy ($P < 0.001$), but MI and RI decreased ($P < 0.001$). The results of this study suggest that clinical therapy using ciprofloxacin may have a moderate genotoxic potential.

Key Words: Ciprofloxacin, sister chromatid exchange, mitotic index, replicative index

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