# Trends in fluoroquinolone resistance of Mycobacterium tuberculosis complex in a Taiwan medical center: 1995-2003

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摘要

## Abstract

OBJECTIVES: Fluoroquinolones are being used more frequently for the treatment of multidrug-resistant (MDR) strains of Mycobacterium tuberculosis complex (MTB). This study was designed to determine the frequency of the emergence of fluoroquinolone-resistant strains in Taiwan and to assess whether this might be due to use of fluoroquinolones for treatment of patients with MDR or because of increased use of fluoroquinolones in the community for treatment of other infections. We also sought to determine whether there might be clonal spread of fluoroquinolone resistance. METHODS: A total of 3497 clinical isolates of M. tuberculosis complex were obtained during 1995-2003, of which 141 were selected. They consisted of 62 isolates fully susceptible to four first-line drugs, 33 isolates resistant to rifampicin and isoniazid (MDR), and 46 isolates with a variety of any drug resistant patterns other than MDR (combination group). The MICs were determined for ciprofloxacin, ofloxacin and levofloxacin. RESULTS: An increase in the MIC90 and rates of resistance to ciprofloxacin, ofloxacin and levofloxacin were noted only in the MDR group. The rates were higher among strains isolated between 1998-2003 compared with those obtained between 1995-1997 (rate of resistance, 20% versus 7.7%; MIC > or = 4 mg/L versus 1-2 mg/L). Among the 10 fluoroquinolone-resistant isolates, five (50%) possessed mutations other than S95T in the gyrA gene. No gyrB mutation was found in any of the clinical isolates. Conclusions: These findings suggest that fluoroquinolone resistance is the result of treatment of patients with MDR strains rather than from use in the general community in Taiwan. The emergence of fluoroquinolone resistance among MDR strains reinforces the need for routine fluoroquinolone susceptibility testing whenever these drugs might be used

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