The Newest Quinolone Antibacterial Agents and Theophylline

To the Editor:

We have described the effect of new quinolone antibacterial agents on the serum concentration of theophylline. In this issue, we report the interaction of theophylline and quinolone antibacterial agents newly developed or under development in Japan.

Quinolone antibacterial agents tested were NY-198 (Hokuriku Seiyaku Co, Ltd), T-3262 (Toyama Chemical Co, Ltd) and AM-833 (Ro23-6240, Kyorin Pharmaceutical Co, Ltd). Chemical structures of these antibacterial agent, five healthy male volunteers received a sustained-release preparation of theophylline orally (200 mg bid for four days), followed by oral antibacterial agents for five days. The doses of NY-198, T-3262 and AM-833 were 200 mg tid, 150 mg tid and 200 mg bid, respectively. Serum theophylline levels were monitored at three and five days after the start of concomitant administration of antibacterial agents.

NY-198 and AM-833 showed no interaction effect. T-3262 showed a significant increase in serum theophylline level with a 1.23 times increase in Cmax and a 1.24 times increase in AUC, but no adverse reaction due to this increased theophylline level was noted. This effect is identical with that of ciprofloxacin and pefloxacin, and care should be taken when the theophylline is concomitantly administered with T-3262.

Furthermore, it is considered that NY-198 and AM-833, like ciprofloxacin, may be used together with theophylline.

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To the Editor:

Dr. Tse's comment on the role of auto-PEEP in the development of hypotension in ventilated, airway-obliterated patients is well taken. Auto-PEEP can result in electromechanical dissociation by both increasing intrathoracic pressure and by disruption of the alveoli. The latter can further compound the situation by resulting in pneumothorax, pneumomediastinum and systemic air embolism (including coronary air embolism). When changing tidal volumes and ventilatory rates fail to reverse the deleterious status of these patients, as in our case, surgical decompression (including sterno-otomy) can buy time and may be life-saving.

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