



**A study of the interaction of roxithromycin with theophylline in asthma patients**

**Author:** Rozeta Aceva

**Co-authors:** Tanja Blazevska, Igor Malinkov, Marija Darkovska-Serafimovska, Angelko Gjorgjev

**Mentor:** Dr. Zorica Arsova-Sarafinovska

**Faculty:** Faculty of Medicine Shtip

**Abstract Body:**

It is well known that macrolide antibiotics have potential to produce clinically significant alterations in theophylline clearance, although the magnitude of the effect varies widely among compounds. Since roxithromycin, a semi synthetic macrolide, has proven clinical efficacy in treating respiratory infections, its concomitant use with theophylline may be expected, particularly in patients with bronchial asthma. We evaluated the effect of a multiple-dose regimen of roxithromycin on the steady-state concentrations of theophylline in 16 patients with bronchial asthma. The patients received aminophylline sustained release tablets in the amount of 700 mg daily (equivalent to 600 mg theophylline), starting on morning of day 1 and continuing through the morning of day 12. Roxithromycin (300 mg, orally) was administered simultaneously with theophylline on study day 5 through day 12. Blood samples were taken on study day 5 and study day 12 at the same time intervals (before and 4, 6, 8, 12 hours after morning ingestion of theophylline). The mean steady-state serum theophylline concentrations were higher during the treatment period with roxithromycin versus control period (no roxithromycin), but the difference were not statistically significant. No statistically significant differences were observed either in mean maximum and minimum serum theophylline concentrations at steady state or area under concentration-time curve from time zero to 12 hours at steady state between two periods ( $p > 0.05$ ). We can conclude that no change in dosage or dosing interval is required when roxithromycin therapy is instituted in patients receiving therapeutic doses of theophylline.

**Key words:** theophylline, roxithromycin, macrolides, pharmacokinetic interaction