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Rifampicin Serum Levels in Childhood Tuberculosis.

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BACKGROUND: Rifampicin (RMP) is an essential drug in paediatric anti-tuberculosis treatment. The current World Health Organization (WHO) guidelines recommend an oral dosage of 10 (8-12) mg per kg body weight.

OBJECTIVE: To present a study investigating RMP serum levels in children after oral medication of RMP alone and after combination treatment with ethambutol (EMB).

DESIGN: RMP serum levels in children of different age groups were determined after a single oral administration of 10 mg/kg RMP alone as well as after combination with 35 mg/kg EMB. **RESULTS:** RMP serum levels were lower than those expected in adults receiving a similar oral dose. RMP serum levels in combination treatment were even lower than in monotherapy.

CONCLUSION: Currently recommended RMP dosages in childhood tuberculosis lead to serum levels lower than those recommended for adults, probably due to different pharmacokinetics and pharmacodynamics in children. In children, it appears to be more valid to calculate RMP dosage on the basis of body surface area rather than body weight, leading to higher dosages especially in younger children.

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