

# High-dose methotrexate therapy of childhood acute lymphoblastic leukemia: Lack of relation between serum methotrexate concentration and creatinine clearance

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**Background.** The objectives of this study were: (1) to analyze the relation of serum methotrexate (MTX) concentration with creatinine clearance, (2) to compare the leucovorin rescue dose administered to the patients based on creatinine clearance, with the one calculated according to serum MTX levels, and (3) to determine MTX-related toxicity. **Procedure.** Thirty children with high-risk non-B acute lymphoblastic leukemia (ALL) treated according to the national protocol (PINDA 92) based on ALL BFM 90, were randomized to receive consolidation with four doses of either 1 or 2 g/m<sup>2</sup> MTX as a 24-hr infusion, at 2-week intervals (group M1 and M2, respectively). Serum MTX concentrations were measured at 24, 42, and 48 hr after beginning the infusion and were analyzed retrospectively. The creatinine clearance was calculated after 12-hr intravenous hydration prior to each MTX dose. Leucovorin dosage was adjusted according to creatinine clearance. **Results.** Serum MTX concentrations at 24, 42, and 48 h