

Therapeutic drug monitoring of thiopurines: Effect of reduced 6-thioguanine nucleotide target levels in IBD patients

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Abstract

Aim: The effect of the Dutch nationwide adjustment of reduced 6-TGN target values (from 600-1200 pmol/8x10⁸ RBC to 320-630 pmol/8x10⁸ RBC) on toxicity and clinical outcome of thiopurine treatment in patients with inflammatory bowel disease (IBD) has not yet been established. Therefore the authors determined the incidence of toxicity-induced discontinuations and efficacy at both target concentrations. **Methods:** This retrospective study was performed in IBD patients treated with azathioprine or mercaptopurine. Two groups were defined: the former target (FT) group with target concentrations of 600-1200 pmol/8x10⁸ RBC and the adjusted target (AT) group with target concentrations of 320-630 pmol/8x10⁸ RBC. Patients were followed for maximum 52 weeks or until discontinuation of thiopurine therapy. Data were collected from the local hospital electronic health software of Rijnstate Hospital. **Results:** 151 patients were included, 76 in the FT group and 75 in the AT group. At week 52, 100 out of 150 patients (66%) of the total population discontinued thiopurine therapy. Forty-eight of this discontinuations were due toxicity (48%). The estimated cumulative incidence of toxicity was higher in the FT group compared to the AT group (47% and 35% respectively, p=0.25). No loss of efficacy was seen in the AT group. **Conclusion:** Reduction of the target range may lead to less toxicity induced discontinuations. In addition, this study did not find any indication that the reduction of the target range diminished efficacy.

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