The risk of drug-drug interactions with paracetamol in a population of hospitalized geriatric patients

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Background: The proportion of the geriatric population in Denmark is expected to increase from 16% in 2010 to 25% in 2042. Pain is common in this segment, and paracetamol is the first-line analgesic for mild-to-moderate pain. Additionally, the elderly are more likely to suffer from comorbidity requiring concomitant medication, hence increasing the risk of drug-drug interactions (DDIs). We therefore undertook this study to investigate both the use, and the risk of potential DDIs (pDDIs) with paracetamol in a population of hospitalized geriatric patients at the Department of Geriatric Medicine, Bispebjerg Hospital, Copenhagen.

Methods: A retrospective and longitudinal pharmacovigilance study over 3 months (01.09.2016-30.11.2016) was conducted in patients who had been receiving paracetamol upon or during hospitalization. The hospital files of the included patients were reviewed: including documentation of concomitant medications, biochemical values and adverse incidents during hospitalization that could be attributed to pDDIs involving paracetamol.

Results: In total 104 patients were admitted during the study period. 91 (87.5%) of these (female/male ratio: 59/32; mean age 86 years) received a prescription or were treated with paracetamol. Of these, 10% were evaluated as being at risk of pDDIs with paracetamol. Seven of the pDDIs were related to treatments with warfarin, one with valsartan and one with phenytoin. The patients at risk received a mean daily consumption of 2.5 grams of paracetamol (range 0.11-4 grams). Of the nine patients at risk, six did experience either abnormal biochemical values or clinical incidents during their hospitalization that could be attributed to pDDI with paracetamol. Four patients experienced increased INR (range 3.2-4.6), of which one patient suffered of anaemia and one with hematemesis. Two patients experienced increased ALAT/ASAT (55/42 U/l and 87/51 U/l, both females). One experienced hypertension. Paracetamol was not suspected by the physicians and, thereby, not discontinued in the majority of these cases.

Conclusion: A large majority of the patients in this study received treatment with paracetamol. Of these, 10 % were at risk of pDDIs with paracetamol. Six patients were evaluated as having abnormal biochemical values or experiencing clinical incidents during their hospitalization potentially related to pDDIs with paracetamol.