Plasma level monitoring of antipsychotics in two different clinics for court-order detention patients in the Netherlands

V de Blécourt, C.; Oei, T.I.

Published in:
European Neuropsychopharmacology

Publication date:
2009

P.3.c.021 Plasma level monitoring of antipsychotics in two different clinics for court-order detention patients in The Netherlands

C. de Blecourt[1]*, T.I. Oei[2]. [1]*Forensic Psychiatric Centre Oldenkotte, Psychosis Department, Rekken, The Netherlands;* [2]*Tilburg University, Department of Criminal Law and Victomology, Tilburg, The Netherlands*

Purpose: Plasmalevel monitoring of psychopharmacological drugs is increasingly applied in Mental Institutions but data from clinics for Court-order detention patients are scarce.

Methods: In three groups of ten inpatients (Pompe Foundation for Forensic Psychiatry, Nijmegen, 2007) and in one group of ten inpatients (Forensic Psychiatric Centre Oldenkotte, Rekken, 2008), respectively, plasmalevels were measured after informed consent in patients who were using antipsychotics in average or high dose, in depot preparation or orally, given under control.

Results: In ten out of 30 and in three out of ten patients, respectively, relatively low or even subliminal plasma levels were found. For example: zuclopentixoldepot 1000 mg/3 weeks: 13 (10–50); flupentixoldepot 40 mg/2 weeks: 1 (1–20); haloperidoldepot 100 mg/4 weeks: less than 1 (5–15); risperidondepot 50 mg/2 weeks: 20 (10–95). No drug–drug interactions were found. Adjustment of the dose resulted in improvement of the clinical picture in a number of cases.

Discussion: One third of these patients had relatively low plasma levels. To exclude a possible role of ultrarapid metabolism, pharmacogenetic investigation was carried out in addition in the patients of the last group of ten patients. No duplication of the gene for CYP2D6 was found, however. So the hypothesis of ultrarapid metabolism had to be rejected.

After scrutinizing the data it occurred that a high percentage of these patients suffered from severe side effects, especially from acathisia. On the basis of this finding an alternative hypothesis could be formulated, namely that these patients, when they had been advised with due arguments, at the time prior to the offence, to increase the dose of the antipsychotic, had rejected this proposal out of fear for the side effects. If one would assume moreover that the intensity of metabolism of the CYP2D6 in this special subgroup of patients was at the fast side of the Gaussian distribution, one might state that the side effects were severe at a low or even subliminal plasma level, indicative of hypersensitivity for side effects, so to say. Both limitations might have led to a selection bias. It could be better understood, then, why decrease

of the dose more than once had had a disastrous effect in these patients.

Conclusion: From the point of view from prevention, it might be useful to identify this special subgroup of patients in advance, especially when they would have shown aggressive behavior during prior psychotic decompensation. It could be attempted then to treat vigorously the individual side effects according to the state of the art, in order to be able to increase the dose of the depot preparation to an effective plasma level, as yet. In case of insufficient result, for example when the acathisia should remain a limiting factor, one might add an oral atypical antipsychotic, using plasma level monitoring, to the depot preparation. Plasma level monitoring favors the doctor-patient relationship.