Polymorphisms in serotonergic pathways influence the outcome of antidepressant therapy in psychiatric inpatients.

Abstract:
Serotonergic pathways are known to play an essential role in the effects generated by antidepressants. Polymorphisms in serotonin receptor and transporter genes have been identified as an important factor. To investigate which of these polymorphisms may be useful to predict clinical outcome, we assessed their effect in a naturalistic clinical study. We studied the influence of the 5-hydroxytryptamine transporter (5-HTT) variable number of tandem repeats (VNTR), 5-HTTLPR/rs25531 and a 5-HTR2A intron 2 SNP with regard to response and side effects in 273 psychiatric inpatients. Main clinical assessments included Clinical Global Impressions ratings, paranoid depression scale self-rating scale and Dosage Record, and Treatment Emergent Symptoms (DOTES) Scale. We found significant associations between 5-HTTLPR/rs25531 S/L(G) alleles and response and side effects in 100 patients with selective serotonin reuptake inhibitor (SSRI) treatment (p = 0.037, CGI-I<= 2: 0% vs. 19% and p = 0.0005, DOTES cluster c: 0.76 vs. 0.19). 5-HTT VNTR and 5-HTR2A intron 2 polymorphisms were associated significantly with adverse effects in patients with selective and nonselective SRI (5-HTT VNTR 12/12: n = 170, p = 0.0001, side effect rates: 51% vs. 19% and rs7997012 [A/A]: n = 50, p = 0.020, side effects rates: 43% vs. 11%). No impact of the polymorphisms on mirtazapine treatment was found. Our study
confirms the influence of serotonergic polymorphisms at the receptor and transporter level on SSRI response and side effects, supporting previous reports based on various study designs. The effects were strong enough to be noticed clinically in this naturalistic setting. However, randomized controlled trials are warranted to provide unequivocal evidence of the clinical usefulness of pretherapeutic screening for these polymorphisms.

Zeitschriftentitel / Abkürzung:
Genet Test Mol Biomarkers

Jahr:
2014

Band:
18

Heft / Issue:
1

Seiten:
20-31

Sprache:
eng

Pubmed:

Print-ISSN:
1945-0265

TUM Einrichtung:
Institut für Klinische Chemie und Pathobiochemie; Klinik und Poliklinik für Psychiatrie und Psychotherapie

Occurences:
- Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Institut für Klinische Chemie und Pathobiochemie > 2014
- Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Klinik und Poliklinik für Psychiatrie und Psychotherapie > 2014

entries: