Allelic Frequency of CYP2D6, CYP2C9, CYP2C19, and CYP3A4 Genetic Variants in Patients Treated With Antipsychotics and Antidepressants

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BACKGROUND AND OBJECTIVE

Pharmacogenetics assesses how CYP genetic variants influence the **efficacy and toxicity** of antidepressants and antipsychotics, supporting personalized psychiatric treatment.

To describe the **prevalence of key CYP genetic variants** in our population and compare it with **European and Spanish** reference frequencies.

MATERIAL AND METHODS

Observational, descriptive, prospective, and multidisciplinary

Psychiatry Department patients

Enzyme	Genetic variants
CYP2C19	*2, *3, *17
CYP2C9	*2, *3
CYP3A4	*22
CYP2D6	rs1135840, rs16947, *3, *4, *6, *9, *10, *17, *41, *29

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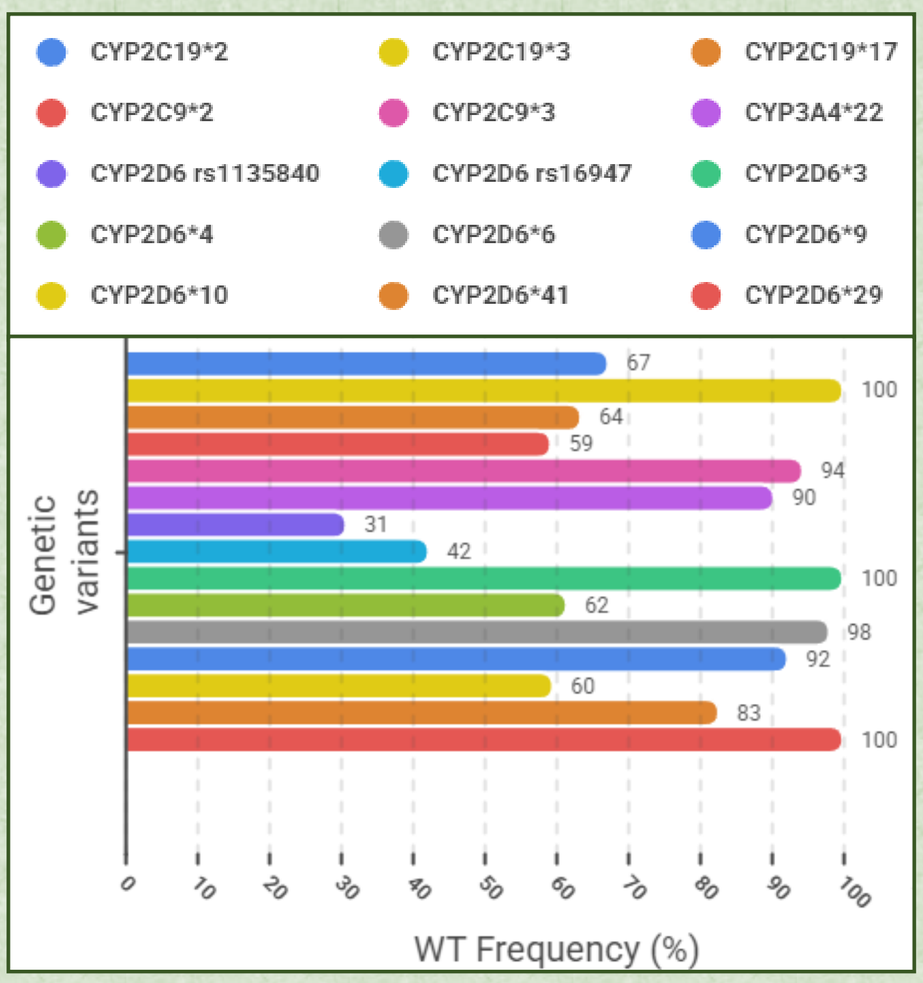
Variables: age, sex, diagnosis and genotyping of CYP3A4, CYP2C19, CYP2D6 and CYP2C9

SaMag-12™system, TaqMan™ probes (QS1™)

Statistical analysis: Stata 13.1.

RESULTS



N= 52 (50% male)

Median age: 51,5 (40,0-59,0) years

Variants per patient: 14 (14-15)

Diagnosis: Bipolar (78,9 %), phsychotic disorder (13,5%)

Europe: no significant differences

Spain: differences in 2 variants

POPULATION	% HET CYP2D6*4
Spain	23,4 %
Study	38,5 %

p=0,025

POPULATION	% WT CYP2C9*3
Spain	83,2 %
Study	94,4 %

p=0,039

CONCLUSION

Our results are consistent with European and Spanish genetic trends, with differences limited to CYP2D6**4 and CYP2C9**3* versus the Spanish population, supporting the **integration of pharmacogenetic testing** into psychiatric practice to optimize treatment outcomes.