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PHARMACOGENETICS IN ANTIPLATELET TREATMENT WITH CLOPIDOGREL IN VASCULAR PATHOLOGY

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BACKGROUND

Different polymorphisms have been associated with interindividual differences in response to clopidogrel. However, variability within the *CYP2C19* and *ABCB1* polymorphisms show the higher level of evidence.

PURPOSE

We evaluated the effect of CYP2C19*2 , ABCB1 3435 C>T polymorphisms separately, and the combined effect grouping patients into: -Loss of function alleles-carriers (LOF)
-Non loss of function alleles carriers (non- LOF)

·**Primary endpoint:** ACS, stroke and reoperation for lower limb thrombosis post-PTA after the prescription of clopidogrel measured at12 months.
·**Secundary endpoint :** intermittent claudication and Fontaine/Rutherford degree measured at12 months.

MATERIAL AND METHODS

- 72 atherosclerotic of arteries of the lower limb disease patients following percutaneous transluminal angioplasty (PTA) treated with clopidogrel were recruited.
- The CYP2C19*2(rs4244285) and ABCB1(rs1045642) SNPs were genotyped using the TaqMan® allelic discrimination assay technology.

RESULTS

	CYP2C19*2 LOF	CYP2C19*2 Non-LOF	OR (95% CI)	P-value	Combined LOF	Combined non-LOF	OR (95% CI)	P-value
Primary endpoint (n=25, 34.7%)	11 (44%)	14 (56%)	4.49 (1.45 – 13.84)	0.009	17 (68%)	8 (32%)	5.00 (1.75-14.27)	0.003
Non-primary endpoint (n=47, 65.3%)	7 (15%)	40 (85%)			14 (30%)	33 (70%)		
Fontaine/Rutherford degree worse evolution (n=30, 41.6%)	14 (46.6%)	16 (53.4%)	8.31 (2.36 – 29.16)	0.001	23 (76.6%)	7 (23.4%)	13.96 (4.44 – 43.82)	P<0.0001
Fontaine/Rutherford degree non-worse evolution (n=42, 58.4%)	4 (9%)	38 (91%)			8 (19%)	34 (81%)		

Parameter	N (%)
Age (mean)	69.02
women	12 (26.7)
Diabetes	31 (68.9)
Hypertension	31 (68.9)
Dyslipidemia	15 (33.3)
Ex/ Smokers	31 (68.9)

CONCLUSIONS

*·CYP2C19*2 LOF alleles and the combined CYP2C19*2 and ABCB1LOF alleles had a significant higher risk for the primary endpoint and a worse Fontaine/Rutherford degree evolution than non-LOF patients.*

·CYP2C19 and ABCB1 polymorphisms could be used as genetic markers of cardiovascular events in vascular patology.

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