RESULTS OF THE USE OF PHARMACOGENETICS IN THE CHOICE OF ANTIPLATELET THERAPY AFTER PERCUTANEOUS CORONARY INTERVENTION WITH STENT

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BACKGROUND Clopidogrel has provided reduction in cardiovascular events in acute coronary syndrome (ACS) patients, particularly those undergone percutaneous coronary intervention (PCI). Cardiovascular response has been associated with some genetic polymorphisms. However, variability within the *CYP2C19* and *ABCB1* polymorphisms showed the higher level of evidence.

OBJECTIVES: To compare the efficacy and safety of the choice of antiplatelet therapy guided by genotyping versus without genotyping test after PCI.

MATERIAL AND METHODS: Quasi-experimental design with retrospective control group including PCI- patients requiring dual antiplatelet therapy during 1-12 months. In genotyping group, CYP2C19 * 2 allele or ABCB1 TT genotype carrier patients ("loss of function (LOF)") received prasugrel or ticagrelor; and clopidogrel in non-LOF carrier patients. In the control group (without genotyping) patients received antiplatelet treatment according to medical criteria. Analysis was made by intention to treat during the first year under dual antiplatelet therapy.

RESULTS

	Genotyping Group n=317 n (%)	Control Group n=402 n (%)	H.R. (95% C.I.)	p-value
Clopidogrel	187 (59%)	374 (93%)	-	-
Endpoint	32 (10.1%)	59 (14.7%)	0.63 (0.41 – 0.97)	0.037
Non-Endpoint	285 (89.9%)	343 (85.3%)		
Bleeding	13 (4.1%)	19 (4.7%)	0.80 (0.39 – 1.63)	0.55
Non-Bleeding	304 (95.9%)	383 (95.3%)		
Efficacy and safety	44 (13.9%)	74 (18.4%)	0.69 (0.48 – 1.01)	0.058
Non efficacy and non safety	273 (86.1%)	328 (81.6%)		

Endpoint: CV death, Acute Coronary Sindrome, Angina, Stroke. Efficacy and Safety: patients with Endpoint and/or bleeding.

	Genotyping Group n=317		p-value
	LOF 130 (41%)	Non-LOF 187 (59%)	
Endpoint	11.5 %	9.1 %	0.44
Bleeding	4.6 %	3.7 %	0.69

LOF (Loss of Function): patients carrying CYP2C19*2 allele and/or ABCB1TT.

CONCLUSION

The choice of antiplatelet therapy after PCI guided by genotyping is more effective and safety than the previous strategy without genotyping.