



# Comparison of the antiplatelet effect of clopidogrel benzene sulfonate and clopidogrel hydrogen sulfate in stable coronary heart disease

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**ABSTRACT.** Clopidogrel hydrogen sulfate (CHS) is a thienopyridine, which can be used to prevent cardiovascular complications alone or in combination with acetyl salicylic acid as an important antiplatelet agent. Clopidogrel benzene sulfonate (CB) is a special clopidogrel salt that can be used as a conventional drug for antiplatelet effects, but the mechanism is still unknown. This study aimed to compare the antiplatelet effects of CHS and CB in stable coronary artery disease patients. Stable coronary artery disease patients (N = 119) were randomly divided into two groups receiving CHS (N = 67) or CB (N = 52). The patients were administered the drugs (600 mg dosage) and monitored for 12 to 14 h to detect antiplatelet effects. Antiplatelet response was evaluated by the P2Y<sub>12</sub> response unit (PRU) and P2Y<sub>12</sub> suppression percentage. In addition, all patients' CYP2C19\*2, CYP2C19\*3, and CYP3A5 polymorphisms were studied. Similar clinical manifestations were observed in the two groups. No obvious difference was detected in the platelet levels of patients given CHS or CB. The antiplatelet response (PRU and P2Y<sub>12</sub> evaluation) of the patients using CHS and CB was not significantly different. In the two groups, the CYP2C19\*2 polymorphic

heterozygote number and antiplatelet response were similar. CB and CHS presented similar antiplatelet effects in stable coronary artery disease patients, and there was no difference in the CYP2C19\*2 heterozygous polymorphism.

**Key words:** Clopidogrel hydrogen sulfate; Clopidogrel benzene sulfonate; Platelet response