Prevalence of *CYP2C19* Gene Polymorphism in Patients with Coronary Artery Disease Undergoing Percutaneous Coronary Intervention

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Objective: CYP2C19 is the hepatic enzyme involved in biotransformation of clopidogrel to its active metabolite. Polymorphism of *CYP2C19* genes would jeopardise clopidogrel's efficacy as an antiplatelet agent. We aim to gain genetic polymorphism data of the *CYP2C19* gene from patients with coronary artery disease undergoing PCI.

Materials and methods: This is a descriptive cross-sectional population-based study on patients with coronary artery disease (CAD) undergoing PCI at Dr Kariadi General Hospital Semarang from March 2019 to March 2020.

Results: From 79 subjects, there were 53 (67.1%) with chronic CAD and 26 (32.91%) with acute coronary syndromes. The frequency of *CYP2C19*1* wild type allele was 77.8% (123), *CYP2C19*2 681G>A* gene was 20.9% (33), and *CYP2C19*3* was 1.3% (2). We found *CYP2C19*1/*2* genotype 25.31% (20 subjects) was higher than *CYP2C19*1/*3* genotype of 1.26% (1). *CYP2C19*2/*2* genotype frequency was 5.06% (4) and *CYP2C19*3/*3* was 1.26% (1).

Conclusion: Prevalence of *CYP2C19* gene polymorphisms in patients with CAD undergoing percutaneous coronary intervention at Dr Kariadi General Hospital Semarang consisted of 20.9% (33) with *CYP2C19*2 681G>A* genes and 1.3% (2) with *CYP2C19*3 636G>A* genes. ❑