

Clopidogrel and morphine: Aggregation disturbance?

To the Editor,

Clopidogrel is the new useful drug that is widely used at present (1). Clopidogrel is a thienopyridine (1). This drug mainly affects platelets by “irreversibly inhibiting platelet aggregation by selectively binding to adenylyl cyclase-coupled ADP receptors on the platelet surface” (1). At present clopidogrel is indicated for the “prevention of ischemic stroke, myocardial infarction, and vascular death” (1). The efficacy and the safety of clopidogrel are issued to be discussed in Clinical Cardiology (2). Drug–drug interaction is an interesting issue while using clopidogrel (3). Compared with morphine, clopidogrel is found to have a lower efficacy when the two drugs are concordantly used (3). Recently, Hobl et al. (4) reported that “morphine delays clopidogrel absorption, decreases plasma levels of clopidogrel active metabolite, and retards and diminishes its effects, which can lead to treatment failure in susceptible individuals.” It is no doubt that this drug–drug interaction is well recognized. However, it is still questionable whether morphine, itself, has any additional protective or inductive effects on aggregation. Here, the authors use a standard chemoinformatic technique named Aggregator Advisor (Shoichet Laboratory, UCSF) for determining the aggregation property of morphine. According to the study, morphine has only a slight aggregation property (101.1 comparing to neutral agent). However, this may indicate that using morphine in combination with clopidogrel can result in many unwanted outcomes on clopidogrel treatment, and the possible induction of aggregation is an unwanted outcome that should be of concern.

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