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Letter by Krijnen et al Regarding Article, “The sPLA₂ Inhibition to Decrease Enzyme Release After Percutaneous Coronary Intervention (SPIDER-PCI) Trial”

To the Editor:

Percutaneous coronary intervention (PCI) may induce a variable amount of myocardial necrosis. It is now well accepted that increased blood levels of the plasma inflammatory marker secretory phospholipase A₂ (sPLA₂) correlate with cardiac injury in patients undergoing PCI,¹ and a role for sPLA₂ in PCI-related cardiac injury has been hypothesized. Using the sPLA₂ inhibitor varespladib, Dzavik et al² tested this hypothesis in the sPLA₂ Inhibition to Decrease Enzyme Release after Percutaneous Coronary Intervention (SPIDER-PCI) trial. However, their results did not support a cardioprotective effect of varespladib in patients after PCI, as was concluded from the course of plasma levels of creatine kinase-MB and troponin I in patients undergoing PCI with or without sPLA₂ inhibitor treatment.

However, we are not convinced that the patient cohort studied was suitable to test the hypothesis that sPLA₂ is involved in PCI-related cardiac inflammatory injury. Unlike Liu et al,¹ in this SPIDER-PCI cohort, no increase in sPLA₂ blood levels was recorded in the placebo group, and only modest C-reactive protein responses were observed. Hence, it can be argued that, although varespladib induced an almost complete inhibition of circulating sPLA₂ activity, the drug had no effect on the release of markers of myonecrosis, because the inflammatory damage to the heart was marginal in this patient cohort.

Dzavik et al refer to our previous studies for evidence of the involvement of sPLA₂ in cardiac injury.^{3,4} However, in these studies, the cardiotoxic role of sPLA₂ was investigated in relation to acute myocardial infarction in which acute-phase blood levels of sPLA₂ may increase 10- to 100-fold. For example, levels of this enzyme can be 200 ng/mL 48 hours after the onset of infarction,⁵ which is in sharp contrast to the levels of 2 to 7 ng/mL observed in the study by Dzavik et al. Although we cannot exclude the possibility that sPLA₂ in the levels described after PCI can have cardiotoxic effects, so far, evidence for this is lacking.

Thus, although the study by Dzavik et al suggests a limited, if any, cardioprotective role of sPLA₂ inhibition in patients undergoing PCI with normal plasma levels of the enzyme, the cardioprotective effect of sPLA₂ inhibition in patients with acute-phase levels remains to be established. Hence, we suggest that the hypothesis on the cardioprotective activity of sPLA₂ inhibitors be tested in patients developing

an acute-phase response following PCI, or in patients with acute myocardial infarction.

Disclosures

None.

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