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Reply

We thank Dr. Sharma for his comments regarding our recently published paper (1). The recent introduction of multidetector computed tomography (MDCT) scanners has improved our ability to measure the dimensions of coronary plaques and vessels. Although we previously reported the correlations with intravascular ultrasound separately for calcified and noncalcified plaques on MDCT, there are some limitations to accurately quantifying the calcified plaques due to the partial volume effects (2). A previous study exploring potential prognostic predictors of cardiovascular events on MDCT found that mixed lesions were associated with adverse events on follow-up (3). Thin-cap fibroatheromas on virtual histology intravascular ultrasound were most prevalent in mixed plaques, suggesting a higher degree of vulnerability of these mixed plaques on MDCT (4). In the current study, we found that mixed plaques with low-attenuation plaques, positive remodeling, and spotty calcification have the potential to predict an elevation of cardiac troponin T levels after percutaneous coronary intervention.

A ring-like enhancement was defined as the features of plaque vulnerability on MDCT (5). In the current study (1), ring-like enhancement was observed significantly more frequently in the presence of post–percutaneous coronary intervention cardiac troponin T elevation than in its absence (31% vs. 11%; $p = 0.016$).

We agree there are difficulties in delineating vessel borders and poor image quality, especially in obese patients, on MDCT. A previous study demonstrated that elevated body mass index leads to a poor signal-to-noise ratio, which in turn is a limiting factor in cardiac scanning (6). In the current study (1), the patient population had low body mass indices compared with typical Western patients with coronary heart disease. Further large studies to confirm these findings in clinical examinations will be needed in Western countries.

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