Correspondence

The effect of coronary plaque on events in patients with type 2 diabetes

Deseive et al. conducted a prospective study to investigate the effect of type 2 diabetes and coronary artery total plaque volume (TPV) on adverse events.[1] All-cause mortality, acute coronary syndrome and late revascularisation were combined as endpoint. Mean TPV value in diabetic patients was significantly higher than that in non-diabetic patients. Although TPV values under $110.5mm^3$ presented no significant difference of adverse cardiac events between diabetic and non-diabetic patients, adverse cardiac events in diabetic patients significantly increased than that in non-diabetic patients, when TPV values exceeded $110.5mm^3$. I have two queries on their study.

First, the authors clarified the increased risk of adverse cardiac events in patients w ith type 2 diabetes, when TPV values exceeded $110.5mm^3$. Although they conducted a propensity-score matching procedure and multivariate C-indices were presented, there is no clear description of using multivariate analysis such as Cox analysis and logistic regression analysis. I think that compiling the data of diabetic and non-diabetic patients would lead to simultaneous adjustment of type 2 diabetes and TPV on the risk of adverse events.

Second, risk assessment of adverse cardiac events should be paid attention to sex difference. Mrgan et al. determined the coronary plaque composition and inflammatory biomarkers in diabetic patients without coronary artery disease.[2] They observed that women had lower absolute coronary plaque volumes than men, but unfavourable plaque composition and enhanced systemic inflammation biomarkers were predominant. Not only TPV, but the content of plaque and inflammatory biomarkers should be simultaneously evaluated. In addition, Coutinho et al. evaluated the association between arterial compliance (AC), coronary artery plaque and calcification in adults without coronary artery disease.[3] By multivariable linear regression analysis, lower indexed AC was significantly associated with higher percent plaque score and coronary artery calcification only in women. They mainly handled women, aged > 50 years, and hormonal change would partly contribute to the association. On the contrary, Yang et al. investigated the association between serum fibrinogen level and cardiovascular events (CVE) in patients with type 2 diabetes and stable coronary artery disease.[4] Although they recognized a significant contribution of serum fibrinogen level for CVE, there was no sex difference in the association. There is a possibility that smaller contribution of CVE by sex would be existed in comorbid patients. Further prospective studies are needed to understand the impact of diabetes and TPV on subsequent adverse cardiac events.

COI statement

The author declares that he has no conflict of interest in this study.

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