

1077 All Resting Physiological Indices may not be Equivalent: A representative case of RCA Intermediate Stenosis

A 75 year old male on dialysis was diagnosed as stable angina pectoris. Coronary angiography (CAG) revealed an intermediate coronary stenosis of the proximal right coronary artery (RCA). He underwent measurements of fractional flow reserve (FFR) and coronary flow reserve (CFR). Physiological indices of RCA were measured from anonymized pressure recordings at an independent core laboratory and calculation of resting indexes including dPR (diastolic pressure ratio), dPR [wave free period (WFP)] and RFR (resting full-cycle ratio) were performed. The FFR and CFR were 0.79 and 1.24 respectively, indicative of significant myocardial ischemia distal to the proximal RCA stenosis. However, in the index assessment, dPR and dPR [WFP] were 0.90 and 0.91 deferring the lesion, while RFR was 0.87.

The patient returned for treatment of RCA stenosis forty days later. Percutaneous coronary intervention was performed following physiological assessment. Physiological assessment of the RCA before intervention was repeated with the pressure sensor located in the same location distal to the stenosis as before, which suggested disease progression with FFR 0.75 and CFR 0.96. On the other hand, dPR, dPR [WFP] and RFR were 0.87, 0.88 and 0.85 respectively, showing concordant diagnosis of functional ischemia, but reproducing a noticeable difference between RFR and the other two measurements. In the present case, an intermediate coronary stenosis in the RCA exhibited disparity among different resting index measurements, resulting in discordant diagnosis of functional ischemia. Clinical significance of the difference in resting index-based decision makings remains to be further elucidated.