Abstract: P2736

Hemodynamic and clinical impact in adult patients with anomalous aortic origin of the coronary artery evaluated with quantitative flow reserve

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Topic(s):
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Citation:

Background

Anomalous origin of the right coronary artery (ARCA) represents the most frequent form of abnormal coronary origin and may potentially increase the risk for sudden cardiac death. Evaluation of ARCA in adult patients referred for invasive coronary angiograms (ICA) is difficult, and clinical impact is unknown. Quantitative flow reserve (QFR) is an available method able to virtually calculate fractional flow reserve using 3-dimensional quantitative coronary angiography (3D-QCA) based on ICA.

Objectives

To evaluate the feasibility of QFR analysis in patients with ARCA and its clinical impact.

Methods

Using the registry of proximal anomalous connections of coronary arteries (ANOCOR registry), a multicentric observational registry including 472 adult patients with ANOCOR between 2010 and 2013, we retrospectively performed QFR analysis from ICA and evaluated the rate of death, myocardial infarction, unplanned revascularization and hospitalization in cardiology at 5 years.

Results

Among 128 patients with ARCA, 41 (32%) could have QFR analysis with median clinical follow-up of 8.3 years. The mean QFR value was 0.90 ± 0.10, and 3D-QCA analysis showed preserved lumen area despite the elliptical shape of the proximal part of the ARCA which in the worst cases appeared on ICA as a significant narrowing. The event rate was 14.6% (n=6), including three deaths (one due to cancer, one due to stroke, and one cause remains unknown), two unplanned revascularizations, and one hospitalization for heart failure at 5 years. No myocardial infarction was reported.

Conclusions

QFR analysis of ARCA is feasible and non-significant QFR values are associated with good clinical outcome at 5 years. QFR of ARCA could be the evaluation of choice to help in clinical decision-making during ICA, when applicable.
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