CMR Perfusion and Viability: A STICH Out of Time?

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In light of the Surgical Treatment for Ischemic Heart Failure (STICH) trial, it came to critical to identify the patients who are likely to benefit from revascularization especially in patients with severe left ventricular dysfunction and ischemic heart failure. Subgroup study by STICH investigators showed that the assessment of myocardial viability did not identify patients with a differential survival benefit from coronary arterial bypass surgery. Dobutamine stress echocardiography or single-photon-emission computed tomography or both were used to assess the myocardial viability on the basis of pre-specified threshold.

However, selection of viability testing would have changed the results in STICH trial. Newer technologies such as cardiac magnetic resonance or position emission tomography imaging have higher resolution and accuracy. In this lecture, cardiac magnetic resonance (CMR) imaging assessing viability and myocardial perfusion in patients with chronic ventricular dysfunction due to coronary artery disease will be reviewed according to the following table of contents;

1. Review of STICH trial : why it is Out of Time
2. Technical overview of CMR perfusion and viability imaging : Strength and weakness
3. Clinical application of CMR in ischemic heart disease