

050

**FFR-GUIDED CORONARY REVASCULARISATION:
IMPLICATIONS OF ITS BIOLOGICAL VARIABILITY ON
CLINICAL DECISIONS**

R Petraco,¹ S Sen,¹ S S Nijjer,¹ J Escaned,² D P Francis,¹ J E Davies¹ ¹*Imperial College;* ²*Hospital Clínico Universitario San Carlos*

doi:10.1136/heartjnl-2013-304019.50

Background Based on FAME and FAME II trials, current appropriateness guidelines recommend the utilisation of fractional flow reserve (FFR) to guide coronary revascularisation based on a fixed cut-off of 0.8. However, this does not take into account the intrinsic measurement variability of a single FFR result. We evaluate the effects of the FFR measurement variability on FFR-guided treatment strategy.

Methods FFR reproducibility data from DEFER was digitised (2 repeated FFR measurements in the same lesion, 10 min apart) and the SD of the difference (SDD) between repeated measurements was calculated. The measurement certainty (probability that the FFR-guided revascularisation strategy will not change if the test is repeated 10 min later) was subsequently established across the whole range of FFR values, from 0.2 to 1.

Results Outside the (0.75–0.85) FFR range, measurement certainty of a single FFR result is >95%. However, closer to its cut-off,

certainty falls to less than 80% within (0.77–0.83), reaching a nadir of 50% around 0.8. In clinical practice, that means that each time a single FFR value falls between 0.75 and 0.85, there is a chance that the FFR-derived revascularisation recommendation will change if the measurement is repeated 10 min later, with this chance increasing to the closer the FFR result is to 0.8.

Conclusions A measurement FFR grey-zone is found between (0.75–0.85). Therefore, clinicians should make revascularisation decisions based on broadened clinical judgement when FFR falls within this measurement grey-zone, particularly between (0.77–0.83), when measurement certainty falls to less than 80%.