Functional Testing Underlying coronary REvascularization

The FUTURE Is Now

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**FFR - What We Know & What We Don’t**

- Revolutionized management of patients with CAD
- Acceptable safety profile
- Superior to angiography alone at determining functional significance of coronary stenoses
- Can identify lesions in which OMT rather than PCI appropriate (DEFER, DEFER DES)
- FFR-guided PCI results in fewer MACE than angio-guided PCI (FAME)
- After coronary angiography, can alter treatment decisions re OMT alone, PCI and CABG (FAMOUS-NSTEMI, RIPCORD)
- Whether FFR can reduce MACE by altering treatment decisions around OMT, PCI or CABG is unknown => FUTURE
The Right & The Wrong: FUTURE

• Right trial
  • Right question
  • Right patient cohort
  • Right design (all-cause mortality, MI, stroke, repeat revasc)

• What went wrong?
  • Interim DSMB analysis identified a statistically significant mortality excess at 1 year in FFR-allocated patients
  • No longer apparent when remainder of enrolled cohort accrued additional time in follow up
An End to the FUTURE
Were Sponsor/Steering Committee Correct in Halting the Trial?

• Should FUTURE have been continued to potentially demonstrate harm?
  ▪ Unethical
  ▪ Unlikely
    - Due to FFR procedure?
      • Few FFR-associated complications in FUTURE
      • No mortality signal with FFR in FAME
    - Due to the differential treatment decisions which occurred following FFR?
      • Identical rate of CABG
      • Less PCI (PCI doesn’t reduce mortality in study cohort; 13/17 deaths underwent PCI)

• Should FUTURE have been continued to potentially demonstrate superiority of one strategy?
  ▪ Would have been futile
Back to the FUTURE
Where Do We Go From Here?

• Assume FFR is safe

• Until proven otherwise, assume no difference in MACE between FFR-guided and angio-guided strategies in this broad CAD cohort

• Acknowledge FFR-guided approach associated with less resource use (7% ARR in initial PCI)

• **Employ an FFR-guided strategy when formulating treatment decisions in patients with CAD undergoing coronary angiography**