**INTERVENTIONAL DECISION MAKING WITH FRACTIONAL FLOW RESERVE FOR CULPRIT LESIONS ASSOCIATED WITH LEFT ANTERIOR DESCENDING ARTERY MYOCARDIAL BRIDGE**

**H. Patel**1, S. Kumar1, N.L. Ko Ko1, J. John2, P. Mathias2

1Internal Medicine, University of Central Florida College of Medicine/HCA GME Consortium, Kissimmee, FL, USA

2Central Florida Cardiac & Vascular Institute, Osceola Regional Medical Center, Kissimmee, FL, USA

**Background:**Myocardial bridge (MB) entails presence of muscle overlying the epicardial coronary artery, with a prevalence ranging 5% - 86%1. Although typically benign, significant ischemia with anatomical intracoronary obstruction do warrant intervention. We present a case where MB with accompanying true luminal stenosis were assessed for physiological obstruction with the help of *FFR* (functional flow reserve).

**Case:**A 78-year-old Hispanic female presented with progressive exertional dyspnea and pedal edema for 3 months, along with severe cardiomyopathy (EF~15%). With this underlying presentation, we performed a pharmacological stress test that showed extensive anterolateral areas of viability and therefore a coronary angiography was performed for invasive evaluation of an ischemic etiology. Angiogram revealed distal LAD systolic obliteration (MB) along with 80% mid LAD stenosis. Adenosine based *FFR* values were: beyond the MB = 0.71, between the MB and the lesion = 0.80. After a drug eluting stent placement; beyond the MB = 0.70 (unchanged), between the MB and the lesion = 1.00 (improved).

**Discussion:***FFR* has been used in evaluation of physiological significance of MB. However, diastolic *FFR* using ionotropes (dobutamine) appears better (96% sensitive)2 for physiological assessment of MB compared to mean *FFR*. In addition, inotrope based *FFR* may not be routinely available at many centers. Use of *iFR* (Instantaneous Wave-free ratio) to help guide therapy is yet under-explored, despite non-inferior results when compared to *FFR*3. In this case, when MB and atherosclerotic narrowing involved the same vessel, a *FFR*-guided approach helped us to reach conclusion.

References:  
**1.**Lee MS, Chen CH. Myocardial Bridging: An Up-to-Date Review. The Journal of invasive cardiology. 2015;27(11):521-8.

**2.**Hakeem A, Cilingiroglu M, Leesar MA. Hemodynamic and intravascular ultrasound assessment of myocardial bridging: *FFR* paradox with dobutamine versus adenosine. Catheterization and cardiovascular interventions : official journal of the Society for Cardiac Angiography & Interventions. 2010;75(2):229-36.

**3.**Instantaneous Wave-free Ratio versus Fractional Flow Reserve. *NEJM*. 2017;377(16):1595-9.