

FMTVDM – Evidence-based outcomes are defined quantitatively.

Richard M Fleming, Physicist-Cardiologist FHHI-OI-Camelot

Other Contributors:

Matthew R Fleming, Physicist-Paramedic

Tapan K Chaudhuri, MD (Eastern Virginia Medical School)

Malhotra, et al [1] correctly defines a concern regarding the treatment of patients and the selection of appropriate interventions. However, to provide this “right care and high-value” cardiac care requires the shedding of incorrect beliefs and opinions – including diagnostic, etiologic and treatment - and the quantification of CAD itself.

Quantification [2] makes it possible to diagnostically define the true extent and severity of CAD present in an individual and to accurately measure CAD treatment outcomes. Only by using true quantification can we remove the errors (sensitivity and specificity) in imaging [2] and treatment studies [3] and provide patients with “right care and high-value cardiology” free of physician bias and misperceptions. To provide this type of care we must focus our full attention on evidence-based medicine; avoiding the errors of the past.

The very foundation of evidence-based medicine is the ability to accurately, consistently and reproducibly measure quantifiable outcomes [2] as shown in Figure 1, and to avoid the use of qualitative or semi-quantitative methods, which misdiagnose the presence (sensitivity) or absence (specificity) of disease [2]. This is now possible using “The Fleming Method for Tissue and Vascular Differentiation and Metabolism (FMTVDM) Using Same State Single or Sequential Quantification Comparisons” [2].

FMTVDM is able to accurately, consistently and reproducibly define the extent and severity of CAD by first quantitatively calibrating the camera (SPECT, PET) utilizing the isotope being employed for measurement, followed by measurements of isotope both in the baseline and enhanced regional blood flow differences states. From these measured changes in isotope emissions, percent diameter stenosis and regional changes in coronary blood flow can be obtained [2,4].

Evidence-based medicine further requires a solid understanding of the pathophysiology of CAD to determine what treatment interventions should be made; interventions which are dependent upon the various factors involved in the inflammatory process impairing coronary blood flow [3-5] producing angina, myocardial infarction (MI) and major adverse cardiac events (MACE).

We encourage Malhotra and others, interested in providing “right care and high-value cardiology” to address treatment and intervention concerns by participating in the quantitative measurement of the impact, both dietary and drug treatments have on patients and study participants; so that clinicians may be able to provide better “right care and high-value cardiology” using FMTVDM evidence-based medicine [4].

References:

1. Malhotra A, Apps A, Saini V, et al. Right care and high-value cardiology: doctors’ responsibilities to the patient and the population. *Postgraduate Medical Journal* 2015;91:415-417.
2. Fleming RM, Fleming MR, Dooley WC, Chaudhuri TK. Invited Editorial. The Importance of Differentiating Between Qualitative, Semi-Quantitative and Quantitative Imaging – Close Only Counts in Horseshoes. *Eur J Nucl Med Mol Imaging*. DOI:10.1007/s00259-019-04668-y. Published online 17 January 2020 <https://link.springer.com/article/10.1007/s00259-019-04668-y>
3. Fleming RM, Fleming MR, Chaudhuri TK. Are we prescribing the right diets and drugs for CAD, T2D, Cancer and Obesity? *Int J Nuclear Med Radioactive Subs* 2019;2(2):000115.
4. Fleming RM. Chapter 29. Atherosclerosis: Understanding the relationship between coronary artery disease and stenosis flow reserve. *Textbook of Angiology*. John C. Chang Editor, Springer-Verlag, New York, NY. 1999. pp. 381-387.
5. Fleming RM. Chapter 64. The Pathogenesis of Vascular Disease. *Textbook of Angiology*. John C. Chang Editor, Springer-Verlag New York, NY. 1999, pp. 787-798.

Show Less

Conflict of Interest:

FMTVDM issued to first author.