PULSUS
WWW.PULSUSCONFERENCE.COM

Curr Res Cardiol 2018, Volume 5
DOI: 10.4172/2368-0512-C1-003

2ND GLOBAL HEART CONGRESS

November 21-22, 2018 Osaka, Japan

FMTVDM©℗: A quantum leap forward for the fields of nuclear cardiology and nuclear medicine

Richard M Fleming[1], Matthew R Fleming[1] and Andrew McKusick[1] and Tapan Chaudhuri[2]

Omnific Imaging, USA
Eastern Virginia Medical School, USA

Background: The foundational work of nuclear cardiology and nuclear medicine began with Blumgarts 1925 study of circulation time. The method was actually quantitative yielding measurements of isotope over time. Unfortunately, the field of nuclear medicine and later nuclear cardiology would yield to an approach of qualitative image interpretation resulting in problems with sensitivity and specificity as do all qualitative methods, resulting in a 35% error rate, matching the limitations of anatomic assessment of disease, including but not limited to coronary angiography, mammography, CT/MRI, etc.

Method: 300 men and women between ages 21 and 85 years of age were studied in five centers across the US, using a quantitative and enhanced method (FMTVDM©℗) designed to measure isotope (Sestamibi and Myoview) redistribution to define wash-in, washout and normal redistribution.

Result: Results were compared to Quantitative Coronary Angiography (QCA). Using FMTVD redistribution measurements, percent Diameter Stenosis (%DS) was then calculated and the calculated %DS used to calculate a quantified/Fleming coronary flow reserve© then used to calculate coronary artery narrowing (%DS) and QCFR/FCFR using the proprietary patent equations. The resulting strong relationship for the coefficient of determination was 0.87582 ($p<0.0001$).

Conclusion: Qualitative comparisons of nuclear imaging produces a diagnostic error rate of 35% comparable with angiographic errors in reader interpretation and the inability to satisfactorily unmask underlying Vulnerable Inflammatory Plaques (VIPs) responsible for roughly 85% of all myocardial infarctions. FMTVDM©℗ provides the first ever quantified and enhanced method for measuring Coronary Artery Disease (CAD) beginning with the measurement of isotope redistribution and ending with the calculation of QCFR/FCFR© using the patented proprietary equations. This patented method is applicable to any device capable of measuring isotope activity over time including but not limited to hand-held probes, planar, SPECT (Single-Photon Emission Computed Tomography) and PET (Positron Emission Tomography). This provides the first quantitative and evolutionary change for the fields of nuclear medicine and nuclear cardiology since its inception in 1925, (QCFR/FCFR) using proprietary equations. The result was then compared with the QCA derived measurements using best fit regression analysis.

Results: FMTVDM©℗ measurements of Sestamibi and Myoview redistribution produced a parabolic relationship ($p<0.01$) and showed that both technetium 99-m isotopes redistribute beginning at 5-minutes post isotope infusion compared with the 60-minute distribution of isotope. Failure to correctly identify this timing of isotope redistribution had resulted in prior erroneous assumptions that Sestamibi and Myoview did not redistribute.

rmfmd7@hotmail.com