SCMR 16th Annual Scientific Sessions

Abstract submissions are now being accepted

The 2013 edition of the society’s Annual Scientific Sessions will be held in San Francisco between January 31 and February 3 at the Hilton San Francisco Union Square Hotel, California, USA. The abstract submission site is already open and the deadline is approaching very fast. The organizing committee expects a record number of submissions as the Sessions move once again to the West Coast. Following last year's success, SCMR and ISMRM will again present a jointly sponsored workshop on January 30-31. This year's topic will be “New Horizons in Highfield Cardiovascular MR: Promise and Progress”. Please save the important dates below. The abstract submission site can be found at:

http://scmr2013.abstractcentral.com/

Save the date PDF

Important Dates/Events

Abstract Submission Deadline October 1, 2012
Abstract Disposition Notification November 12, 2012
Cardiovascular Magnetic Resonance: State-of-the-Art Course September 30-October 1, 2012 Natcher Center, Bethesda, MD
Registration info here.

SCMR INTERVIEW: the CE-MARC study

1) John, could you summarize the main findings of your study?
The CE-MARC study was the largest, prospective, real-world evaluation of CMR in patients with suspected angina pectoris. The primary outcome measure was to benchmark the diagnostic accuracy of a multi-parametric CMR examination to detect significant coronary artery disease (CAD) as defined by the invasive coronary angiogram. In this regard we showed that CMR's diagnostic accuracy was very good indeed. Our main secondary outcome was the comparison of CMR to SPECT, and we have shown that CMR had a superior sensitivity and negative predictive values which were both highly statistically significant. An important point to remember about this trial, and often not appreciated, is that we went to great lengths to avoid patient selection bias, and in this regard CE-MARC could also be considered to be the largest, real-world, prospective evaluation of SPECT.

2) What do you think is its importance in our daily clinical practice?
Prior to CE-MARC there had been a number of small-scale stress perfusion CMR studies attempting to determine its diagnostic accuracy. However, these studies were generally limited (continues on pg 2).
by sample size and patient selection. Even when these studies are included in meta-analyses, we know that this statistical approach is limited by trial heterogeneity and publication bias. Importantly there were no available data examining how CMR performs when used in routine daily clinical practice. Thus it was important to use a multi-parametric approach. By this I mean that when we perform CMR in patients with CAD, we don't just do stress perfusion, we have information on ventricular function, myocardial viability and perhaps coronary artery MR angiography. By using all of these components we would expect that it could provide much more useful information to diagnose and manage patients. Thus CE-MARC was very relevant to our daily practice, being the first study to answer this question. Secondly, at the time of CE-MARC there were hardly any comparative data between CMR and SPECT, the latter being the most widely used non-invasive ischaemia test globally. We now have clear evidence that in unselected patients with suspected CAD, CMR has greater diagnostic accuracy than SPECT, irrespective of how you classify angiographic disease significance, and this holds up in both single/multi-vessel disease and in males/females. It is difficult therefore to see how these results will not influence future guidelines and clinical referral patterns.

3) In applying this in clinical practise, do you see a difference between Europe, US and the rest of the world?
We know that health-care delivery models differ widely across the world and this has a profound influence on how CMR is used in daily clinical practice; the two most important regional factors being availability of a CMR service and reimbursement. CMR has had a steady but disappointingly slow growth in some countries, particularly when compared to cardiac CT, and this is perhaps due to the perceived complexity of our modality and the limited number of trained staff. Re-imbursement issues will always be challenging, but what commissioners of healthcare will want to understand is a health economic analysis of the different diagnostic test pathways for CAD. What I hope to publish shortly is the cost effectiveness analysis of CMR and SPECT, based on the data from CE-MARC and other published trials. This will also give us a monetary figure for what the differential cost between CMR and SPECT needs to be in order for CMR to be considered cost effective in terms of ICER's and QALY's.

4) Should SPECT still be considered an adequate viability and ischemia test in patients with ischemic heart disease?
SPECT has a long history, is widely available and is deeply embedded into clinical management guidelines. There are also a wealth of clinical data to showing the prognostic value of a negative SPECT scan. Thus it will continue to be a valuable tool for the foreseeable future. That said, technology innovation in diagnostic imaging is moving rapidly, and what we do today may be very different in 5-10 years' time. With the increasing evidence base for CMR, for diagnosis, management and prognosis, coupled with the fact that it doesn't involve ionising radiation, I suspect there will be a continued shift away from SPECT. Already some UK centres have stopped requesting SPECT and have moved all of their CAD referrals to CMR.

5) What were the challenges related to this study?
One of the unique trial design points of CE-MARC was that every patient was scheduled for every test. This meant that everyone had to undergo invasive angiography whether they needed it or not. This is the only way that the true false negative rate of any diagnostic test can be established, and this type of trial design had not been performed before on such a large scale for any cardiac imaging modality. Clearly this raised some potential ethical challenges for us, which needed careful consideration and justification. Also recruiting 752 patients from a single centre in just over 3 years was very demanding on the research nurses, for which they did a marvellous job. Finally analysing all of those scans, including the MR coronary angiograms, was immensely time consuming for us on top of delivering a busy clinical CMR service.

6) What are the main differences between your study and MR-IMPACT I and II?
Whilst there are significant differences between the three trials in terms of design, taken together they provide growing evidence that CMR is superior to SPECT. MR-IMPACT I was really a contrast dose ranging study and was under-powered (as stated in the manuscript) to detect any difference between CMR and SPECT. However, MR-IMPACT II was more important because it was a large multi-centre, multi-vendor trial and the findings support those of CE-MARC. The key differences though are that MR-IMPACT II: 1) enrolled selected patients (i.e. those already listed for angiography and/or SPECT); 2) only the stress perfusion component was evaluated (as opposed to the typical way that we perform and report CMR on a day to day basis looking at LV function and LGE images); 3) a core lab analysed all of the data blinded to any clinical information, and whilst this has some design strengths, we know that this doesn't reflect real world practice. The main purpose of CE-MARC was to design the study as close as possible to real-world practice, using standard CMR and SPECT protocols, and to study a very typical unselected out patient population, so as to avoid referral bias and to ultimately determine the true false negative rates of both modalities.

7) Is there a CE-MARC 2 in the pipeline?
Yes, we have full funding for CE-MARC 2 courtesy of the British Heart Foundation. It will be a 1200 patient, multi-centre randomised controlled trial of 3T CMR (as the only investigation) compared to standard clinical management guidelines for the investigation of patients with suspected angina. The primary endpoint will be the reduction of unnecessary invasive angiography as defined by FFR. This is an important end point as recent large studies from the US have shown that in elective angiography patients only ~38% were found to have obstructive CAD. Recruitment will start in Q3 2012 hopefully.