

GUIDELINES FOR JOURNAL CLUB REVIEWERS

BACKGROUND

- » Briefly describe why this study is being done (and why it should be done). What are the authors trying to do, and did they accomplish it?
- » Is this important (new, useful, or practical) information?
- » How persuasive is the writing?

METHODS

- » Briefly comment on the study's design:
 - Are inclusion/exclusion criteria clearly defined?
 - Are diagnostic criteria and endpoints defined in an unambiguous, reproducible, non-circular, prospective manner? Are there any potential biases? Are investigators blinded? Should they have been?
- » Is there a control group? Is a control group necessary?
 - Do the authors state or imply a primary hypothesis? Secondary hypothesis?
 - Are the statistical methods appropriate for the data? Is there evidence that a power calculation was performed to determine the required sample size? (Is there any statistical validation?)
- » How could you do it better?

RESULTS

- » Briefly comment on major findings of the study. It is not necessary to review the results in detail since Journal club participants have already thoroughly read the study; it is only necessary to highlight the key points.

DISCUSSION AND CONCLUSION

- » This is the most important part of the presentation! The following questions should be answered:
 - What conclusions do the authors draw from the data? Are these conclusions the same as the primary/secondary hypotheses or has there been post hoc analysis? Are their conclusions justified?
 - What conclusions do you draw from the data?
 - How should the results of this study be applied clinically? (Should we change our practice?)
 - Does this work suggest the need for further research? If so, describe what form this should take.

Journal Selection for February 2012

Utility of cardiovascular magnetic resonance in identifying substrate for malignant ventricular arrhythmias.

Circ Cardiovasc Imaging. 2012; 5(1):12-20

White JA, Fine NM, Gula L, Yee R, Skanes A, Klein G, Leong-Sit P, Warren H, Thompson T, Drangova M, Krahn A.

Background- Sudden cardiac death (SCD) and sustained monomorphic ventricular tachycardia (SMVT) are frequently associated with prior or acute myocardial injury. Cardiovascular magnetic resonance (CMR) provides morphological, functional, and tissue characterization in a single setting. We sought to evaluate the diagnostic yield of CMR-based imaging versus non-CMR-based imaging in patients with resuscitated SCD or SMVT.

Methods and Results- Eighty-two patients with resuscitated SCD or SMVT underwent routine non-CMR imaging, followed by a CMR protocol with comprehensive tissue characterization. Clinical reports of non-CMR imaging studies were blindly adjudicated and used to assign each patient to 1 of 7 diagnostic categories. CMR imaging was blindly interpreted using a standardized algorithm used to assign a patient diagnosis category in a similar fashion. The diagnostic yield of CMR-based and non-CMR-based imaging, as well as the impact of the former on diagnosis reclassification, was established. Relevant myocardial disease was identified in 51% of patients using non-CMR-based imaging and in 74% using CMR-based imaging ($P=0.002$). Forty-one patients (50%) were reassigned to a new or alternate diagnosis using CMR-based imaging, including 15 (18%) with unsuspected acute myocardial injury. Twenty patients (24%) had no abnormality by non-CMR imaging but showed clinically relevant myocardial disease by CMR imaging.

Conclusions- CMR-based imaging provides a robust diagnostic yield in patients presenting with resuscitated SCD or SMVT and incrementally identifies clinically unsuspected acute myocardial injury. When compared with non-CMR-based imaging, a new or alternate myocardial disease process may be identified in half of these patients.

PMID: 22038987

<http://www.thepreparedminds.com/archives/4205>

Questions and Topics for Discussion

- » Of the 125 patients initially referred for the study, 20 were excluded because of previous implanted cardiac device contraindicating MRI. How might this affect the study?
- » Only one interpreter assessed each dataset. How does this affect the findings?
- » There is no control group. What might one find if asymptomatic volunteers underwent similar testing?
- » Non-CMR tests included echocardiography, invasive angiography, SPECT, and cardiac CTA. What could be the gold standard for this study, and how might sensitivity and specificity be calculated?
- » The average time to cardiac MRI was 12 days for resuscitated cardiac death patients and 21 days for sustained VT patients. How does this affect the results?
- » Non-CMR imaging diagnosed no patients with an inflammatory condition like myocarditis, and CMR “upstaged” 10 normal patients into the inflammatory category. What are the implications of this?
- » More patients with resuscitated cardiac death had their diagnosis changed than patients with VT. Speculate as to why this might be.
- » How could this study be followed up?
- » What would a clinical algorithm incorporating cardiac MRI look like for this clinical scenario?

PLEASE SHARE YOUR THOUGHTS WITH OUR READERS.

Submitting the opinions and conclusions reached at your Journal Club meeting after reviewing the article couldn't be easier:

- » By e-mail to: kirschj@thepreparedminds.com
- » By fax to: (954) 689-5115 | C/O Jacobo Kirsch, MD
- » By using the 'Contact Us' form in the website

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