**PACEMAKER/ICD IN THE MRI ENVIRONMENT; BEYOND THE MAGNASAFE TRIAL**

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Today, MRI is rarely performed in pts with conventional PM/lCDs. While recent studies such as MagnaSafe published in NEJM have unequivocally documented MRI safety in pts with implanted devices, the clinical value has not been considered. A myopic focus on safety continues potentially prohibitive for future dissemination of this concept.

**Hypothesis:**MRI in patients with PM/lCDs is crucial to existing diagnosis and often substantially alters diagnosis and pt management.

**Methods:**An evaluation of consecutive pts with PM/lCDs who underwent MRI (GE 1.5T,Wl) over 10yrs (95% and CRT’s (and 12 retained leads and 6 loop recorders). Specific criteria were followed to objectively determine if the diagnosis via MRI altered pt care. Accordingly, to attempt to objectify value, four questions were answered within 1 week of MRI by both MRI technologist and MRI physician(s): 1) Did primary diagnosis change? 2) Did MRI provide additional information to existing diagnosis? 3) Was the pre-MRI (tentative) diagnosis confirmed? 4) Did pt management change? If ‘Yes’ was answered to any question, it was considered that MRI was of value to pt diagnosis and/or impending therapy.

**Results:**A total of 465 pts underwent CMR scanning with PM/ICDs over ~7 yrs. The avg MRI time was 22±43min. Upon review of the neuro/neurosurgery MRI’s, 289 (89%) provided additional information. The diagnosis changed in 175(54%), while medical care changed for 175 (54%). In only 38 (12%) did MRI simply confirm original diagnosis. In 101 CV cases, CMRI provided additional data. In 82 pts (81%), CMRI changed the original diagnosis and in 49 (49%), patient care. CMRI did not contribute in 23 (23%) due to uninterpretable lCD artifact. In essence, 83% of CV cases benefited from MRI. Finally, in the 38 musculoskeletal cases, MRI provided additional information in 35 (92%) and in 29 (76%), MRI changed care. No safety or device issues were encountered in any pt.

**Conclusion:**MRI in pts with PM/lCDs adds substantial clinical value to diagnosis and subsequent management greatly justifying residual inherent risk. To our knowledge, this is the first study to focus solely on the diagnostic value of implantable devices under the notion that safety can be routinely accomplished.