

Exponential Increased Utilization of Cardiac MRI in the Coronary Care Unit

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Background: In the last decades cardiac magnetic resonance (CMR) has been established as an important modality for the evaluation of numerous cardiac pathologies.

Purpose: To analyze trends in CMR utilization for coronary care unit (CCU) patients in a seven year period in a tertiary University Hospital.

Subjects and methods: Retrospective analysis of a prospectively maintained database was performed. Database (January 2004 and October 2011) was queried for: demographic data, referring department and scan indication.

Results: A total of 3557 patients (61% males) underwent CMR scans during this period. Of these, 542 patients (15%) were referred from the CCU. The number of CMR scans increased 15 fold (from 8 scans in 2004 to 122 scans in 2011); The number of patients in the CCU remained stable in this time periods; in 2004 - 5767, patients and during 10 months in 2011 4789 patients . The main clinical indications included: arrhythmogenic right ventricular dysplasia (ARVD) (3%; from 1 study to 7 studies per year), constrictive pericarditis (4%; 0 studies to 6 studies), cardiac tumors (4%; 1 study to 14 studies), dobutamine stress CMR (3%; 0 studies to 9 studies), viability (6.5%; 2 studies to 15 studies), cardiomyopathy (14%; 0 studies to 20 studies), ST elevation MI (26%; 0 studies to 32 studies) and myocarditis (38%; 2 studies to 81 studies).

Conclusions: CMR utilization in the CCU has significantly increased over the past 7 years. CMR was performed for the accurate definition of various pathologies. Of note, is the unique ability of CMR to clearly distinct between myocarditis and acute MI, which led to routine utilization of CMR for such indications. In our institution a dedicated multidisciplinary team has been established contributing to better cooperation and coordination between cardiology and cardiovascular imaging. This continuing collaboration and mutual interests contributed to the growing utilization CMR imaging.