**QRS COMPLEX FRAGMENTATION AS A PREDICTOR OF MYOCARDIAL SCAR IN PATIENTS WITH TRASTUZAMAB INDUCED CARDIOMYOPATHY**

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*Background*: Trastuzumab is a chemotherapeutic agent used in the treatment of breast cancer. It is associated with cardiac toxicity. In a series previously published from our centre, trastuzumab induced cardiac injury was shown to manifest on cardiac magnetic resonance (MR) as a subepicardial delayed enhancement in the lateral wall of the left ventricle. Fragmentation of the QRS (fQRS), defined as one or more RSR’ patterns within the QRS complex, is an electrocardiographic finding that has been shown to correlate with myocardial scar in several etiologies of cardiomyopathy.

*Objective*: We hypothesized that the presence of fQRS on the 12-lead ECG could predict subepicardial “scar” on MR in breast cancer patients treated with trastuzumab.

*Methods*: We retrospectively reviewed the charts of patients in the trastuzumab study cohort. Available 12 lead ECG’s from the study period were collected and post-processed using a 150 Hz low pass filter. ECGs were coded for the presence or absence of fQRS. The ability of fQRS to predict scar was evaluated, using MR as the gold standard.

*Results*: ECGs were available on 24 patients. We identified 9 as having fQRS, of which 3 had MRI evidence of scar. Conversely 15 patients did not have fQRS, of which 2 had MRI evidence of scar. The sensitivity was 60%, specificity was 68%. The PPV was 30% and the NPV 87%.

*Conclusion*: In this retrospective single centre series, the absence of fQRS on ECG was strongly predictive of absence of scar on cardiac MR, Presence of fQRS, however was not predictive of scar. These findings require validation in a larger, prospective series.