Introduction: The benefits of MultiPoint™ Pacing (MPP) has been previously demonstrated to improve Cardiac Resynchronization Therapy (CRT) in heart failure (HF) patients, however clinical evidence from the Chinese population is lacking. Here we present data from a large Chinese HF patient cohort with MPP CRT over one year follow up.

Methods: A multi-center prospective study evaluated patients who received implants of the Quadra Assura MP™ CRT-D system (Abbott, USA). QRS duration, LV ejection fraction (LVEF), LV end systolic volume (LVESV), 6 minute walk test (6MWT), and Minnesota Living with Heart Failure Score (MLHFS) were collected at both baseline and 12 month follow up. Response to CRT was defined as an absolute increase of >5% in LVEF on 12 month visit compared to the baseline.

Result: A total of 93 patients were enrolled from 11 hospitals in China. The CRT-D system was successfully implanted in 91 attempted implants (98%). Among the 58 patients who completed the 12 month follow up by June 2019, 46 (79%) patients had the MPP function turned on over the one year follow up and were used for the present analysis. The average QRS duration was reduced by 22% (171±19 to 134±20 ms), LVEF was improved by 18% (25±8 to 43±12), and LVESV was reduced by 40% (169±78 to 101±72 ml) compared with baseline (Figure 1). The average 6MWT increased from 304±126 to 624±570 m and MLHFS improved from 47±20 to 23±24. (p<0.01 for all results) The CRT response rate was 77% among the patients with MPP turned on over the 12 months.

Conclusion: From a large Chinese HF population receiving MPP CRT, we found MPP is safe and effective for treating heart failure with significant improvements in clinical outcome and quality of life over one year follow up.