have implications on the development of assessment and management pathways for this under-recognised patient cohort.

16 SINGLE-CELL RNA SEQUENCING REVEALS CARDIAC CELL-SPECIFIC TRANSCRIPTOMIC CHANGES IN DILATED CARDIOMYOPATHY

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17 THE NATURAL HISTORY AND STAGING OF PRE-CLINICAL HEART FAILURE

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Introduction Heart failure (HF) is growing global epidemic. Given the high morbidity and mortality associated with HF, and the impact it has on an already stretched health care system, its effective management is a public health priority. Prevention is a critical component of this strategy and this is dependent on a more complete understanding of the natural history of the condition, especially its preclinical precursors.

Methods St Vincent’s University Hospital offers a HF Prevention service (STOP-HF) targeted towards patients in its catchment area that have risk factors for HF. We retrospectively analysed the serial echocardiographic and natriuretic peptide data of 1,425 of these patients who have had at least two visits. Stage A was defined as no previous diagnosis of HF and a normal echocardiogram with one or more of the following: hypertension, hypercholesterolemia, obesity, vascular disease, diabetes mellitus, arrhythmia requiring therapy or significant valvular disease. Stage B, a cohort at higher risk of development of heart failure, was defined as no previous diagnosis of HF and its effective management is a public health priority. Prevention is a critical component of this strategy and this is dependent on a more complete understanding of the natural history of the condition, especially its preclinical precursors.

Results A population of 1425 was analysed. On average, visit 1 was 64yrs with females accounting for 46% (n=649). At visit 1, 72% (n=1022) of the population were classified as Stage A, and 28% Stage B. The average BNP of a Stage A patient was 28pg/ml while the average BNP of a Stage B patient was 64pg/ml. At visit 2, 60% (n=858) of patients were classified as Stage A, and 40% Stage B. At visit 2, the average BNP of a Stage A patient was 35pg/ml while the average BNP of a Stage B patient was 141pg/ml. In terms of progression, 53% of patients remained in Stage A, 18% progressed to Stage B, 21% remained in Stage B and 7% had regressed from Stage B to Stage A. The most prevalent manifestation of progression was an increase in LAVI while the notable change in patients demonstrating regression from Stage B to Stage A was a reduction in LVH. In terms of changes in BNP between the two visits, those who remained in Stage A had an average BNP increase of 10pg/ml from visit 1 to visit 2. Similarly, those who regressed from Stage B to Stage A had an average increase in BNP of 22pg/ml, whereas those that progressed from Stage A to Stage B had an average increase in BNP of 68pg/ml.

Summary This natural history study of a large sample of patients at risk for the development of heart failure demonstrates a significant proportion of patient with Stage B and furthermore a concerning progression rate of progression from Stage A to Stage B. Our data also identify a change in NP as a useful clinical biomarker of Stage B and risk of progression. It is hoped that this initial study will form as a baseline for further analysis and help guide screening and prevention strategies in the future.