Abstract 37 Figure 1 Flow diagram demonstrating inclusion/exclusion criteria

identified patients who had hsTNT sent on the index presentation and who went on to have a subsequent ischaemic evaluation. We included invasive coronary angiography, CT coronary angiography, perfusion cardiac MRI, and dobutamine stress echocardiogram. We defined significant abnormalities on ischaemic assessment in accordance with accepted definitions in the literature (table 1). We examined 953 consecutive hospitalisations with atrial fibrillation over a 6-month period. Patients were initially excluded from our analysis if they had previously diagnosed atrial fibrillation or coronary artery disease, if they reported angina or if their hsTNT was elevated. We identified 38 patients suitable for assessment. 23 of these patients had not had an ischaemic evaluation at the time of our assessment, resulting in 15 patients for evaluation [figure 1].

Results All 15 patients presented with new-onset atrial fibrillation with rapid ventricular response. All ischaemic evaluations were performed within 9 months of initial presentation. 5/15 (33%) patients presented with other primary illnesses with fast atrial fibrillation as a secondary feature. The mean HR at presentation was 135bpm (SD±20). 10/15 (66%) of patients subsequently had invasive coronary angiography, while 4/15 (27%) had a perfusion cardiac MRI and 1/15 (7%) had a stress echocardiogram. 1 patient (7%) satisfied the definition of significant coronary artery disease at invasive coronary angiography despite a normal hsTNT at presentation. Angiography revealed a chronic total occlusion of the RCA with non-obstructive disease in the LAD. Of note, this patient had presented without angina in atrial fibrillation with rates up to 120bpm for over two hours. The remaining 14/15 patients

(93%) had normal non-invasive assessments, normal coronary angiography or mild-moderate irregularities at coronary angiography that did not fit the criteria for significant coronary disease. We found that a normal hsTNT yielded a negative predictive value of 93% for significant coronary artery disease or abnormality at non-invasive assessment in those patients who went on to have such investigation.

Conclusion In patients with new-onset fast atrial fibrillation without angina, a normal high-sensitivity troponin is associated with a low incidence of significant coronary artery disease. Further work is required to examine the negative predictive value of a normal hsTNT level for significant coronary artery disease in larger patient populations and across multiple centres.

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A YEAR IN THE LIFE OF VIRTUAL CLINIC FOR HEART FAILURE MANAGEMENT; A VALUABLE AID DURING THE COVID-19 PANDEMIC

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Background Disseminating specialist knowledge into the community to facilitate care outside the hospital setting is an emerging focus of chronic disease management in Ireland and

elsewhere. The Virtual Consultation (VC) service pioneered at St. Vincent's/St. Michael's Hospital is an important platform to enable this shift in care. This is a real-time online case discussion between the GP and cardiologist on diagnostic, man-

agement and test interpretation issues in Heart Failure (HF) management. The COVID-19 pandemic has further tested the value of this service during a period where hospital outpatient services were curtailed or had ceased. We report herein on

Abstract 38 Figure 1 HFVC referral sources and patient frailty, medication and co-morbidity status

Abstract 38 Figure 2 A Comparison of 'Outcome after HFVC' with 'What the GP would have done without the HFVC service'

the specific impact of the HFVC service during the calendar year 2020 to analyse in particular the value of the service in providing remote specialty care without the need for onward hospital referral.

Method Data including demographics, co-morbidity, medication, frailty, reason for referral, and the impact of the HFVC on what the GP would have done in the absence of this service, were prospectively collected on all cases discussed in HFVC during 2020. Descriptive and frequency analyses were performed using SPSS V.27 [figure 1].

Results The HFVC service discussed 317 cases during 2020. This was a decline from 452 in 2019, likely due to the reduced patient interaction with the GP. Of these cases (53% male, 76.8 ± 11.1 yrs.), 205 (65%) were new case discussions while the remainder represented review or follow-up discussions. Referrals were dominantly from Dublin (35%), Wicklow (29%) and Carlow/Kilkenny (27%). The population in general was vulnerable (Frailty scale 3.8 ± 1.5), multi-morbid (mean 7 ± 3.4 comorbidities) and on polypharmacy (10.4 ± 4.9 medications). The dominant reason for consultation was assistance with diagnosis (70%) and the remainder was related to management or investigation interpretation. The greatest impact of the HFVC was a dramatic reduction in the need for onward referral to the hospital outpatient department, either the general cardiology service or the heart failure service. Without the VC service 82% of the group would have been referred, in contrast to only 11% requiring hospital outpatient services after the VC consultation, with 72% now being managed in a shared GP-virtual specialty strategy. The intervention also prevented 3 patients being referred to the ED/AMAU services (figure 2).

Conclusion The HFVC, an already established platform to enable the transfer of aspects of HF care to the community, was particularly effective during the COVID-19 pandemic in 2020. In providing online, real time specialist advice to the GP, referral to the hospital outpatient service was reduced by 230 referrals, a more than 8-fold reduction in the year. This was observed in a frail, elderly, multimorbid population who would have been particularly at risk to virus exposure if travel to a hospital setting had been necessary. This experience further underlines the benefits of this platform for care delivery and should be encouraged and developed as a management tool to other cardiovascular problems and indeed other chronic illnesses.

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ANALYSIS OF TIMING OF PATIENTS REFERRED TO A NATIONAL TERTIARY ADVANCED HEART FAILURE CLINIC

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Background A hub and spoke healthcare model for national heart failure (HF) management is encouraged internationally. At the heart of this model is the necessity for recognition of patients developing advanced heart failure. Our aim was to understand referral patterns to a National Advanced HF clinic including triggers for referral and burden of disease at review.

Methods Patients reviewed at the National Advanced HF clinic between May 2019 and February 2021 were included in an advanced HF registry. Patient outcomes included immediate

hospital admission, mechanical support, heart transplant and death. Information such as New York Heart Association (NYHA) class, ESC 2018 'I need help' parameters and 'total HF hospital admissions in the previous year' were documented.

Results There were a total of 56 patients included in the registry of which 28.6% (n=16) of patients required immediate admission. Of the admitted group, mean NYHA class was 3 ± 1.1 compared to NYHA class 2 ± 0.8 in those not admitted ($p < 0.001$). The mean number of 'I need help' markers in the admitted group were significantly higher (6.2 ± 2.4 Vs 2.8 ± 2 , $p \leq 0.001$) and frequency of hospital admissions in the previous year were double that of the not admitted group (2.3 ± 1.8 Vs 1.1 ± 1.2 , $p = 0.03$). Of those admitted the 2 main reasons for referral were 1. intolerance of neurohormonal agents (40%) and 2. >1 HF hospitalisations (40%). Ultimately 75% of those admitted required inotropes and 43.8% (n=7) went on to have a ventricular assist device (VAD) (3 CentriMag devices and 4 durable LVADs). In total 56.3% (n=9) were listed for inpatient heart transplant. Of those 3 patients died on the active waiting list (2 CentriMag devices & 1 on inotropes). A total of 18.9% (n=3) proceeded to inpatient heart transplant. In the admitted group the mortality rate was 37.5% (n=6), 67% of which occurred during the index admission. This overall death rate was significantly higher than that of the not needing admission group (37.5% Vs 5%, $p = 0.03$).

Conclusions This study signifies real world data surrounding advanced HF referrals to a national tertiary centre. It highlights the magnitude of patients referred at a significantly advanced stage reflected by almost a third requiring immediate inpatient admission. This translated to a significantly higher mortality rate within this cohort. Importantly, the mean NYHA class was 1 point higher in the admitted group. Although this alone cannot be used to trigger patient referral to an advanced HF clinic, as it is used universally, transition from class 2 to 3 should prompt a review of the patient using a model such as 'I need help' to question the need for referral. Notably of those admitted, 80% of referrals were triggered by only 2 markers within this model suggesting the usefulness of these 2 parameters for identifying a particularly advanced group of HF patients. Further work is needed however to evaluate which parameters will identify patients at an earlier stage of disease.

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IS AN NTproBNP SALIVA TEST PAVING A NEW AVENUE FOR DIAGNOSIS AND THERAPY MONITORING OF HEART FAILURE PATIENTS – INSIGHTS FROM THE KARDIATool STUDY

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Introduction There is ample room for improving the usability of risk prediction tools for the advancement of heart failure (HF) management. New biomarkers and testing technologies, which can diagnose HF, monitor therapy and provide information related to the subsequent risk for adverse events or mortality of the affected patients, may drive this change. Blood NTproBNP is a well-established biomarker for diagnosis and monitoring of HF. Saliva NTproBNP has