instant feedback about their current health status; 2) Personalized advice: patients want a system that can adapt medication, sport activities and food recommendations to their current health status; 3) Transparency: patients want to know the source, reasons, and individualized interpretation of any recommended changes to the management of their condition. Additionally, patients have a desire to adapt their lifestyle to the needs of HF, but they require help to remain motivated to achieve this goal.

Conclusion These findings provide valuable information for the development and implementation of eHealth solutions. Patients want reassurance 24/7, independently of the availability of healthcare services, combined with personalized medical advice regarding day-to-day management of their HF. In a next step, we are planning a multicentre clinical trial to test the first prototype of the eHealth product (DoctorMe).

19 DYSTROPHIN DEFICIENT CARDIOMYOPATHY – PREDICTORS ASSOCIATED WITH THE CARDIAC PHENOTYPE IN A DUCHENNE'S REGISTRY POPULATION – A GUIDE FOR DEVICE THERAPY

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Background Patients with Duchenne muscular dystrophy (DMD) typically exhibit cardiac dysfunction and arrhythmia. With increasing life expectancy due to advances in respiratory support, cardiomyopathy and associated dysrhythmia are fast becoming the primary cause of morbidity and mortality in this patient group. Despite advances, the correlation between genotype and cardiac phenotype remains poorly understood and individual registries small, with implementation of device therapy often delayed due to poor diagnostic image quality.

Methods A single-center registry for DMD patients was established and data including genotyping, medical therapy and investigations such as cardiac MRI, nt-Pro BNP levels, echocardiogram and holter monitor was analysed. The aim was to potentially identify predictors associated with a more severe cardiac phenotype.

Results A total of 22 patients (age 17 -31) with DMD were reviewed (demographics summarised in table 1). All patients were evaluated with echocardiography on at least one occasion (mean EF 44.3%). Cardiac MRI was attempted in six patients, however due to contractures preventing access to the scanner only three were completed. 14 of 22 patients (64%) demonstrated an impaired left ventricular ejection fraction (EF) < 50% (mean EF 41%). Proximal 'hot spot' deletions/mutations (exon 2–19) appeared to be associated with a more pronounced reduction in EF – all those patients with proximal mutations demonstrated an EF < 45% (mean 41%). Seven of the eight patients (87.5%) with mutations involving >1 exon deletion demonstrated more severely impaired EF (mean EF 37.5%) compared to those with single exon deletions (mean EF 52%). Interestingly, one patient with a proximal mutation (exon 3–6 deletion) remains mobilising to distances up to 70 m, however CMRI performed has shown a moderate degree of fibrosis with an EF of 42%. Correlation between nt-Pro BNP levels and reduced EF (rEF) was not uniform, however a level < 100

Abstract 19 Table 1 Demographics

	Age	Mutation	EF	nt-Pro BNP	No. of HF Medications
I	17	Exon 3–6 Del	42%	Not Available	2
II	17	Nonsense Exon 19	45%	Not Available	2
III	18	Nonsense Exon 19	45%	Not Available	2
IV	19	Exon 47–52 Del	40%	251	3
V	20	Exon 37–43 Del	50%	300	1
VI	20	Exon 45–53 Del	30%	37	3
VII	17	Exon 44–47 Del	50%	Not Available	3
VIII	22	Exon 45–50 + 52 Del	30%	231	2
IX	21	Exon 43–53 Del	25%	37	3
X	21	Exon 45 Del	45%	290	3
XI	28	Absent on IHC	50%	35	2
XII	20	Absent on IHC	40%	164	2
XIII	31	Uncertain	20%	108	2
XIV	18	Exon 68 Del	45%	140	3
XV	20	Exon 68 Del	70%	36	1
XVI	20	Exon 45 Del	35%	290	3
XVII	19	Exon 44 Del	55%	12	2
XVIII	26	Uncertain	55%	24	1
XIX	31	Uncertain	60%	47	3
XX	17	Uncertain	55%	113	3
XXI	26	Uncertain	55%	Not Available	1
XXII	31	Exon 50 Del	60%	63	2

Nt-Pro BNP – N-terminal pro-B-type natriuretic peptide, HF – Heart Failure, IHC – immunohistochemistry, EF – ejection fraction.

was associated with EF >55% in 89% of cases. Of those on steroid regimes, 6 (54%) had impaired LVEF compared to 5 (83%) of those not on steroid therapy. All patients are taking at least one class of heart failure modification, with 79% on two and 37% on three. Only one patient in the registry has had an ICD implanted. This patient has had a device for 10 years and in this time there have been no therapies delivered.

Conclusion Correlation between predictors and cardiac phenotype in a Duchenne population remains unreliable. Location and size of exon alteration appears to be indicative of more markedly impaired LV function, however larger studies are required to characterise this further and challenges remain with regard to accurate assessment of EF. The use of predictors in future may help to guide appropriate provision of device therapy.

20 HOW DOES BMI INFLUENCE HEART FAILURE PROGRAMME OUTCOMES?-TESTING THE OBESITY PARADOX

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Introduction A complex physiological relationship exists between obesity and heart failure (HF) with many large-scale studies reporting a paradoxical improvement in cardiovascular (CV) mortality in obese patients. Many of these studies retrospectively analyzed RCT trials not designed to investigate the role of obesity in HF outcomes. We aim to establish if

different outcomes exist after HF programme completion based on body mass index (BMI).

Methods A multi-centre retrospective observational study was carried out in 3 hospitals' HF clinics. New patients referred to each HF service over a 12 month period were reviewed, or in a 24 month period in one centre, with a left ventricular ejection fraction (LVEF) < 50% were eligible for inclusion. Patient records were obtained to collect patient demographics, New York Heart Association (NYHA) class symptoms, NT-proBNP, LVEF and medications at initial referral and at programme completion. Hospitalisation rate for HF and mortality was also noted. Patient characteristics and outcomes were compared between non-obese (BMI < 29.9) and obese (BMI > 30).

Results 93 patients were included for analysis and a follow up of (mean ($\pm$ SD) 16.5 months ($\pm$ 8.8) was obtained. 63 (67.7%) had a BMI < 29.9 and 30 (32.3%) had a BMI > 30. Obese patients were more likely to be male ($p=0.03$), diabetic ($p=0.05$) and have hypertension ($p<0.001$). No significant differences in medical or device therapy was noted between groups. Obese patients had a greater improvement in their LVEF following programme completion (10.5% ($\pm$ 11.7) versus 7.95% ($\pm$ 10.7)), although this did not reach statistical significance ($p=0.34$). Obese patients had significantly lower NT-pro BNP levels at HF programme completion (median(IQR)) (546.4 () versus 962 (), $P=0.02$) however this improvement was not significantly greater than that seen in non-obese patients ($p=0.8$). Although no difference in mortality was noted between the groups (8 (12.7%) versus 3 (10%), $p=0.73$), obese patients had significantly fewer HF hospitalisations than the non-obese group (0.33 ($\pm$ 0.74) versus 0.04 ($\pm$ 0.2), $p=0.005$).

Conclusion Despite higher rates of diabetes and hypertension in obese patients, there was no significant difference in mortality, LVEF improvement and NT-proBNP improvement following HF programme completion between the 2 groups. However, obese patients had significantly less HF hospitalisations during the study period than non-obese patients.

21 INFECTIVE ENDOCARDITIS POST-TRANSCATHETER AORTIC VALVE IMPLANTATION: EXPERIENCE FROM AN IRISH TERTIARY REFERRAL CENTRE

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Background Prior studies of infective endocarditis (IE) post-transcatheter aortic valve implantation (TAVI) have reported an incidence of 1–2%, a median time from TAVI to presentation with IE of ~1 year, and 1-year mortality rates of 40–50%. In addition, a higher rate of enterococci as the culprit microorganism compared to staphylococci and streptococci has been reported.

Objectives To determine the clinical characteristics, microorganism spectrum, and outcomes of IE post-TAVI in an Irish tertiary referral centre.

Methods Using a prospective TAVI database, all patients diagnosed with IE post-TAVI were identified. Pre-defined baseline demographic, procedural and follow-up data were analysed. Specific additional retrospective analysis of medical records

Abstract 21 Table 1 Culprit Micro-organism

Culprit microorganism	N (%)
Streptococci	7 (41.1)
Strep mitis	2 (11.7)
Strep salivarius	2 (11.7)
Strep infantarius	1 (5.8)
Strep gordonii	1 (5.8)
Abiotrophia Defectiva	1 (5.8)
Enterococcus faecalis	3 (17.6)
Staphylococci	3 (17.6)
Staph aureus	1 (5.8)
Coagulase-negative staph	2 (11.7)
Culture Negative	4 (23.5)

Survival probability estimate at one year is 0.82 (95% CI = 0.55–0.95)

Abstract 21 Figure 1 Survival curve at 1 year for IE post-TAVI

were performed to assess the culprit microorganism and treatments for IE.

Results A total of 707 patients underwent TAVI during the study period. During a mean follow-up of 2.3 years, 17 (2.4%) patients with IE were identified. According to the modified Duke criteria, IE was defined as definite and probable in 6 (35%) and 11 (65%) cases, respectively. The mean age was 78.7 ($\pm$ 13.7) years and 12 (71%) were male. The median time from TAVI to presentation with IE was 7 months (IQR 5–13). The dominant culprit microorganisms identified were streptococci (41.1%), with a low frequency of enterococcus faecalis (17.6%) (table 1). Among the 17 patients with IE, there was one (6%) major stroke and two patients (12%) required surgical aortic valve replacement. There was one death during the initial hospitalization for IE. The Kaplan-Meier estimate of survival at 1 year was 0.82 (95% CI = 0.55–0.95) (figure 1).

Conclusions This Irish TAVI cohort exhibited a similar incidence of IE post-TAVI and similar time to first presentation compared to prior international registries. There was a much lower rate of enterococcus compared to staphylococci and streptococci as the culprit microorganism. The 1-year mortality rate in this series was much lower than previously reported.