

Abstract 98 Figure 1

Patients with HFpEF had lower age-sex adjusted mortality than with HFrfEF (hazard ratio 0.74; 95% CI 0.6 to 0.91).

Conclusion . ESC guided diagnosis of HFpEF can be an important adjunct to management of older patients presenting with symptoms and signs of HF and may be useful in developing new approaches to the treatment of HFpEF.

Conflict of Interest nil

99

INSIGHTS FROM THE USE OF HEARTLOGIC TO MONITOR PATIENTS WITH CONGESTIVE HEART FAILURE (CHF): A TERTIARY CARE COMPLEX DEVICES AND HEART FAILURE CARDIOLOGY CENTRE EXPERIENCE

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Introduction Cardiac Resynchronisation Therapy (CRT) and implantable cardiac defibrillators (ICDs) are a well-established, scientifically proven and guideline recommended treatment for selected patients with left ventricular systolic dysfunction (LVSD), reducing mortality and/or hospitalisation, with the latter being the most expensive part of the treatment of such patients. Attempts have been made to maximise the yield of CRT/ICD devices by use of sensors which predict the onset of CHF well before the patient deteriorates, hence avoiding the need for hospitalisation and in the process conserving valuable financial resources. HeartLogic is one such new software incorporated into Boston Scientific (BSC) CRT/ICD devices which uses multiple sensors to track physiological trends, combining them into one composite index alerting healthcare professionals of potential worsening CHF. The MultiSense Study demonstrated a 70% sensitivity in

detecting CHF events, a median of 34 days prior to clinical heart failure.

Aims In this study we describe our experience of the use of HeartLogic in a tertiary care cardiology centre with a well-established complex devices and heart failure service.

Methods Retrospective analysis of patients (n=49) with BSC devices and in whom HeartLogic was activated in March/April 2019. Patient records (electronic patient records, including Latitude downloads) were reviewed and the results of those having alert(s) of ≥ 16 were compared with those who did not during a follow-up period of 288 ± 6 days (median 288, range: 282-327).

Results Whole cohort: mean age: 68 ± 11 years (median 72, range 33-87), 37/49 (75.5%) males. 35/49 (71.4%) had LVSD due to ischaemic cardiomyopathy. Devices implanted were: Resonate X4 CRTD 28/49 (57.1%), Resonate EL ICD 13/49 (26.5%) and the remainder, Momentum CRT-D 8/49 (16.3%). During the monitoring period number of alerts were as follows: \geq one alert: 22/49 (44.9%) patients, 2 alerts: 10/49 (20.4%), 3 alerts: 7/49 (14.3%); 4 alerts: 2/49 (4.1%) and 5 alerts: 1/49 (2%). For each patient who had an alert, the maximum alert value was considered for analysis. The maximum alert score was 26.6 ± 12.3 (median: 23, range: 16-67), and the duration of alert was 32.7 days (median: 29, range: 4-83). For each of the 5 physiological parameters, a change in the expected direction at the time of alert was evaluated. S3 was the most sensitive (increase 15/22, 68.2%), followed by thoracic impedance (decrease 14/22, 63.6%) and S1 (decrease 13/22, 59.1%). Respiratory rate and night heart rate were less sensitive parameters (increase 11/22, 50% and increase 9/22, 40.9% respectively). Though not part of HeartLogic, activity levels showed a decrease in 13/22 (59.1%) of patients who had an alert. Characteristics of those who did and did not have an alert were compared (Table 1). Heart Failure Nurse contact and change in medication over monitoring period were statistically significantly more common in the group with alerts.

In our real world experience with HeartLogic, expected change in values of S3, thoracic impedance, S1 and activity

Abstract 99 Table 1 Comparison of patients 'with' versus 'without' alerts

N=49	With Alert n=22 (%)	Without Alert n=27 (%)	P value
Age (years): mean \pm SD, median, range	68.5 \pm 11.6, 71, 41-87	68.3 \pm 12.6, 73, 33-84	0.9546, NS
Males	14 (63.6)	22 (81.5)	0.1624, NS
Aetiology of LVSD – Ischaemic	18 (81.8)	17 (63.0)	0.1515, NS
Duration of HeartLogic monitoring (days)	288 \pm 3	288 \pm 8	1.0000, NS
Number of contacts with the Heart Failure Nurses: total, mean \pm SD per patient, median, range	49, 2.23 \pm 0.7, 1	6, 0.22 \pm 0, 0-2	< 0.0001
Change in medication over follow-up period	7 (31.8)	1 (3.7)	0.0088
Hospitalisation for CHF	1 (4.6)	0 (0)	0.2650, NS

* NS = not significant

levels were the most sensitive markers of CHF and so predictive of alerts, leading to early and increased frequency of Heart Failure Nurse contact and significant intervention, possibly helping in prevention of hospitalisation and in turn conservation of valuable financial resources.

Conflict of Interest None

100

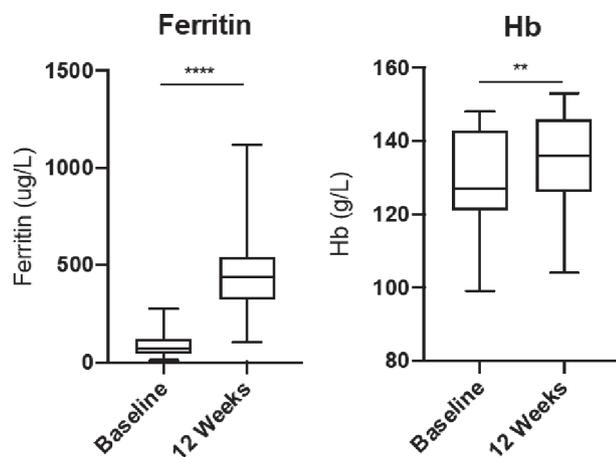
INTRAVENOUS IRON IN SYMPTOMATIC HEART FAILURE IS SAFE AND COST-EFFECTIVE

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Introduction Heart failure (HF) affects approximately 1 million people in the UK, adversely affecting quality of life, functional capacity and cognitive health. This results in frequent hospitalisation and significant healthcare costs¹, 2. Iron deficiency complicates heart failure in approximately 50% of patients³, and is increasingly recognised as a significant contributor to morbidity in this group. Intravenous ferric carboxymaltose (FCM) has been shown to improve quality of life (New York Heart Association [NYHA] class and Kansas City Cardiomyopathy Questionnaire [KCCQ]), performance in 6-minute walk test (6MWT), reduce hospitalisations, and is reflected in international guidelines⁴⁻⁷. We aimed to assess the feasibility, safety and cost implications of establishing an IV iron service for patients with HF in a large tertiary cardiology centre.

Method Over a 6-month period (July-December 2019), outpatients with symptomatic heart failure (NYHA class ≥ 2) and severe left ventricular systolic dysfunction (LVEF $\leq 40\%$) were screened, and serum iron studies performed. Patients with iron deficiency (ferritin $<100\mu\text{g/mL}$ or $100-300\mu\text{g/mL}$ and transferrin saturation [TSAT] $<20\%$) were included and were excluded if polycythaemic (Hb $\geq 150\text{g/L}$) or if there was evidence of active infection. A course of FCM was administered according to newly developed local protocols within the infrastructure of the existing IV iron service. Quality of life scores (NYHA and KCCQ) and serum measures of iron deficiency (Ferritin, TSAT, Hb) were compared at baseline and 12 weeks. All patients were monitored for anaphylaxis. The financial impact was calculated by subtracting the total cost of administration (day case admission, drug administration, staff time, consumables) from the received tariff.



Abstract 100 Figure 1

Results Fifty-two patients underwent IV iron replacement (69% male, mean age 66 years) with no significant adverse events or hospital admissions. The financial impact to the trust was a net income of £55 per patient (FCM treatment £290, remuneration £345). Ferritin increased significantly $83.3\mu\text{g/L}$ to $433\mu\text{g/L}$ ($p < 0.0001$) as did TSAT, 18% to 30% ($p < 0.0001$) and Hb, 126g/L to 135g/L ($p < 0.01$) [Figure 1]. Mean NYHA class and KCCQ scores were unchanged (2.5 to 2.3 [$p = 0.09$] and 35-36 [$p = 0.68$] respectively).

Conclusion Utilisation of the existing iron infusion service facilitated the delivery of IV iron replacement for patients with heart failure with little need for additional training and resources. Delivery of the service did not incur additional cost to the trust and in fact there was a small net gain. In-keeping with published data we demonstrated comparable improvements in serum iron parameters and a trend towards improvement in NYHA class.

IV iron replacement with FCM is safe and affordable and should be considered in all iron deficient patients with symptomatic heart failure.

Conflict of Interest Yes - received honorarium from Vifor

101

HEART FAILURE, DIABETES AND USE OF SGLT2 INHIBITORS – A MISSED OPPORTUNITY

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Introduction Individuals with type 2 diabetes mellitus (T2DM) and cardiovascular (CV) disease have very high CV risk. Recently, SGLT2 inhibitors (SGLT2i) in diabetic patients with heart failure (HF) have been shown to decrease mortality and recurrent hospital admissions. The ESC guidelines suggest using SGLT2i to lower risk of HF hospitalisation (class IA evidence). We ascertained whether appropriate patients with T2DM and HF, admitted to the hospital, were prescribed SGLT2i during the admission.

Methods We gathered data from consecutive patients diagnosed with HF and T2DM admitted to Lancashire Teaching Hospitals between March and September 2019. Patients with an eGFR $<60\text{mmol/mol}$ were excluded (BNF recommendations). We also analysed patients with an eGFR between 45 and 59mmol/mol as the cut-off for SGLT2i prescription is imminently changing.

Results 132 patients (mean age 77 ± 11 years, 75 males) were studied. The mean HbA1c was $58\text{mmol/mol} \pm 19$ with a median value of 52mmol/mol ; median NT-ProBNP was 3802pg/mL . 27 patients (21%) met the criteria for SGLT2i (eGFR ≥ 60) but none were prescribed the medication. Two patients were already on an SGLT2i. If the cut off dropped to 45mmol/mol , the number of eligible patients not receiving SGLT2i would rise to 55 (42%).

Conclusion A review of the current literature suggests that in eligible patients, HF re-admissions can be reduced by 35% using SGLT2i. In our study, 21% (eGFR ≥ 60) and 42% (eGFR ≥ 45) could have been prescribed an SGLT2i. We believe this is a missed opportunity during acute admissions. During such admissions, a patient may develop AKI, leading to a transient reduction of eGFR. Hence, we expect that the opportunity for prescribing SGLT2i may be larger than demonstrated in our study. We propose that the effectiveness of