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POSTER PRESENTATION

Demographics, Clinical Characteristics, and In-Hospital Outcomes of Adult Patients with Heart Failure at Sohar Hospital, Oman: A Retrospective Study

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1. ABSTRACT BACKGROUND

- Heart failure (HF) represents a growing global health burden characterized by high morbidity and mortality.[1] In the Gulf region, patients present at younger age with substantial comorbidities.[2] However, detailed local data describing the clinical profile of HF patients in Oman remain limited.

2. OBJECTIVES

- To assess the demographic and clinical characteristics and in-hospital outcomes of adult patients with decompensated heart failure admitted to Sohar Hospital, Oman, between January 2024 and December 2024.

3. METHODS

- Retrospective observational study was conducted including all adults (≥18 years) admitted with decompensated heart failure. Data was extracted from Al shifa electronic health system using a structured, validated tool.

4. RESULTS

During the study period, a total of 8037 patients were admitted to the medical ward at Sohar hospital. Out of these, **477** had heart failure, representing **5.9%** of all admitted patients.

5.93% **Of the medicine ward patients in 2024 were admitted with heart failure**

The mean age was **69 years (SD 14.5)**, and **51.8%** were male. The most prevalent comorbidities were hypertension **(83.0%)**, diabetes mellitus **(60%)**, and coronary artery disease **(59.7%)**. Heart failure with reduced ejection fraction **(HFrEF)** was the predominant type **(42.5%)**. Nearly half **(46.1%)** had prior HF admissions. Moderate - to- severe mitral regurgitation was present in **(37.3%)** and anemia in **(45.7%)**. In- hospital mortality was relatively low **(1.7%)**. However, readmission rate was **(26.2%)** at 30-days. Elevated CRP at admission, prior stroke, and endotracheal intubation were significant predictors of in hospital mortality. Chronic kidney disease, and positive troponin were significant predictors of 30-days readmission.

Figure 1. Gender Distribution

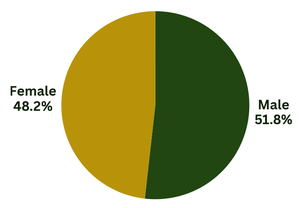


Figure 2.HF Classification by Ejection Fraction

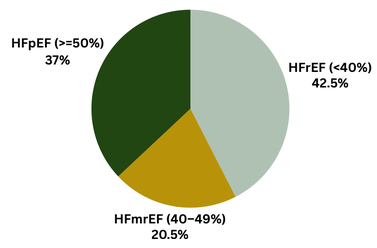
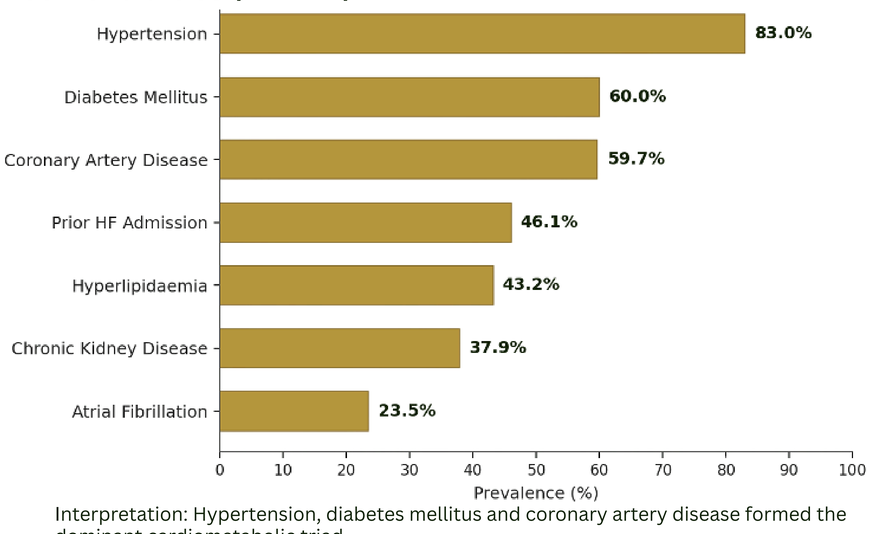
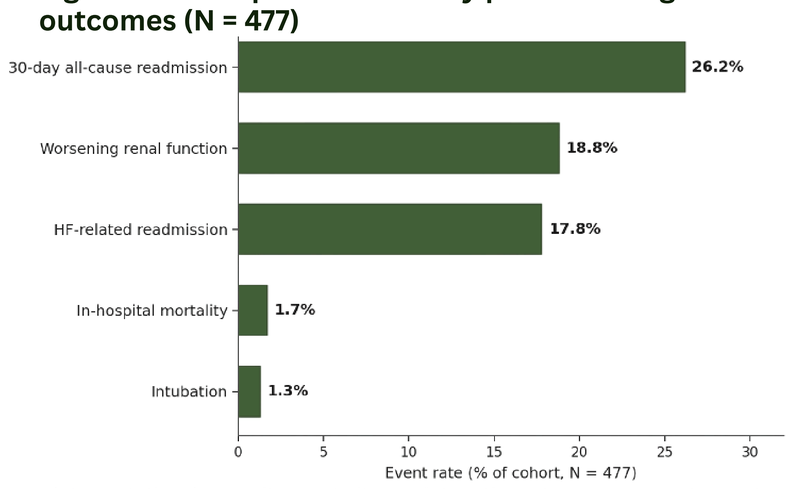


Figure 3. Prevalence of the seven most common comorbidities (N = 477)



Interpretation: Hypertension, diabetes mellitus and coronary artery disease formed the dominant cardiometabolic triad

Figure 4. In-hospital and 30-day post-discharge outcomes (N = 477)



Interpretation: In-hospital mortality and intubation rates were low, but more than one in four patients was readmitted within 30 days — signalling that the principal care-quality gap lies in the post-discharge transition, not the acute admission itself.

Table 1. Hemoglobin (g/dL) levels

Gender	Normal Hb (n, %)	Low Hb (n, %)
Male	134 (54.3%)	113 (45.7%)
Female	125 (54.3%)	105 (45.7%)

Table 2. Significant predictors of adverse in-hospital and post-discharge outcomes

Outcome (event rate)	Significant predictor	p-value
In-hospital mortality (1.7%, n = 8)	Prior Stroke / TIA	0.004
	Intubation requirement	0.004
	Elevated CRP	0.046
Worsening renal function (18.8%, n = 89)	Chronic Kidney Disease	<0.001
	Positive troponin	<0.001
	Prior Stroke / TIA	0.009
30-day all-cause readmission (26.2%, n = 125)	Positive troponin	0.003
	Chronic Kidney Disease	0.042
Prolonged length of stay (>4 days; mean LOS 4.5 d)	Lower haemoglobin	0.001
	Higher creatinine / higher NT-proBNP	0.022 / 0.025
	Chronic Kidney Disease	0.032
	Atrial fibrillation	0.035
	CAD (Coronary Artery Diseaese)	0.048

Tests: χ^2 for categorical variables; Student's t-test or Mann–Whitney U for continuous variables (distribution assessed by Shapiro–Wilk). Significance threshold $p < 0.05$. Bold rows indicate statistically significant associations

5. CONCLUSION

- Heart failure remains a major cause of hospital admission at Sohar hospital, characterized by advanced age and substantial comorbidity burden. Despite relatively low in-hospital mortality, 30- days readmission rates remain high. In the present study we identify a set of predictors of in-hospital mortality and 30-day readmission which could be incorporated into risk stratification, management planning, and patient counselling.

KEYWORDS

Heart failure, Clinical profile, Comorbidities, Oman, Sohar Hospital, HFrEF.

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