

4 (16%) one month after discharge from hospital. Underlying disease was coronary artery disease (CAD) (62%) including previous myocardial infarction (83% of patients with CAD), hypertensive heart disease (18%), rheumatic valvular disease (13%) and primitive dilated cardiomyopathy (7%). Cardiovascular risk factors were tobacco use (53%), hypertension (69%), diabetes (47%) and hypercholesterolemia (51%). In the CAD group, patients were older and diabetes was more frequent ($p < 0.01$). Khat chewers (53%) were all males and smokers. Severe renal failure was found in 20%. Mean left ventricular ejection fraction (LVEF) was $39 \pm 14\%$. Atrial fibrillation was observed in 7%. During follow up (14.4 \pm 9 months), 8 (18%) patients died, 9 (20%) had new hospitalization for HF and 3 (7%) had an ischemic stroke. Higher NYHA classes were associated with poorer outcomes ($p = 0.03$). Patients with LVEF $\leq 35\%$ ($n = 24$, 53%), were compared with patients with LVEF $> 35\%$ and no difference was observed in terms of risk factors, underlying disease and outcome.

Conclusion: In hospitalized Djiboutian, most of HF patterns are similar to those of industrialized countries. CAD is more prevalent than previously reported in African patients with HF. Epidemiologic transition is a reality in Djibouti. Urgent measures for the prevention of cardiovascular disease and HF are needed.

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Impact of sodium level on the prognosis of 1509 patients with chronic heart failure

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Approximately 20% of heart failure patients have low levels of serum sodium, often at a time when they are hospitalized during a period of decompensation. It may reflect worsening heart failure and the deleterious effects of activation of neurohormones. However, impact of hypernatremia, prognostically relevant cut-off values, and differential prognosis with reference range serum sodium levels are not well defined.

Methods: Our aim was to prospectively assess the impact of baseline natremia and changes in sodium level during median follow-up of 32 months in 1509 patients. According to our central laboratory, hypo- and hypernatremia were defined as sodium levels < 135 and > 145 mmol/l. Chi2 test was used, a difference was statistically considered significant if $p < 0.05$.

Results: The prevalence of Hyponatremia was 12.45% and hypernatremia was 0.9%. The mean age was 64.32 years (20-97), with a male predominance (68.15%). There was a correlation between value of sodium levels and severity of heart failure. The positive correlates of hyponatremia compared with normonatremia were NYHA functional class [we find class III in 32.9% patients vs 18.5% ($p = 0.0089$) and class IV in 7.9% vs 2.09% ($p = 0.0075$)], decompensation found in 26.5% patients vs 12.04% ($p = 0.0085$), renal dysfunction: mean creatinine was at 15 vs 10mg per litre ($p = 0.0015$), use of high dose of diuretics 61.17% vs 40.46% ($p = 0.0012$) and use of spironolactone 81.38% vs 51.50% ($p = 0.0082$). Positive correlates of hypernatremia were intake of diuretics 54.8% vs 40.46% ($p = 0.001$), NYHA functional class [72.78% were in class II vs 61.03% and 27.22% were in class III vs 18.5% ($p = 0.002$)], decompensation in 38.8% vs 12.04% ($p = 0.001$)

Conclusion: The severity of heart failure, the renal function and medication were associated with serum sodium levels. Our data indicate the need of further research into optimized management of sodium-water homeostasis in heart failure.

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Incidence and predictors of worsening renal function in 1500 patients with chronic heart failure

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Introduction: Renal dysfunction (RD) is common in patients with chronic heart failure (CHF) and predicts a worse outcome. The aim of our study is to determine the prevalence and incidence of renal dysfunction (RD) in patients with chronic heart failure (CHF), to compare the clinical characteristics of patients with different severities of RD and to identify contributory factors and predictors of worsening renal function (WRF).

Material And Methods: This was a single centre, observational and comparative study. We included 1500 patients followed for CHF with left ventricular ejection fraction $\leq 45\%$ in Ibn Rochd Center of Cardiology from

May 2006 to October 2010. The glomerular filtration rate (GFR) calculated by the simplified modification of diet in renal disease (MDRD) was used to determine renal function. We divided patients in four groups based upon the baseline GFR (normal ≥ 90 mL/min, mild impairment 60-89 mL/min, moderate impairment 30-59 mL/min, and severe renal impairment ≤ 29 mL/min). WRF was defined as an increase in serum creatinine of > 26.5 mmol/L (> 0.3 mg/dL).

Results: The mean age of our patients was 63 ± 12.14 years (16-100), and 67% were men. Mean ejection fraction was 33%. GFR was normal (≥ 90 mL/min) in only 150 patients (10%), mildly reduced (60-89 mL/min) in 525 patients (35%), moderately reduced (30-59 mL/min) in 645 patients (43%), and markedly reduced (≤ 29 mL/min) in 180 patients (12%). Patients with severely impaired renal function were older, more often male and had lower left ventricular ejection fractions, and haemoglobin levels than patients with normal or mildly impaired renal function.

During 12 months, WRF occurred in 390 (26%) patients. Predictors of WRF were renal dysfunction at baseline, diabetes, NYHA classes III-IV, and systolic blood pressure > 140 mmHg.

Conclusion: In patients with CHF, RD is common, commonly deteriorates over a relatively short period of time and associated with poor prognosis. Better knowledge of predictors of worsening renal function, allows selecting groups at high risk where nephroprotective measures must be strengthened.

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Myocardial fibrosis and left ventricular non compaction in north african patients

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Background: Left ventricular non compaction (LVNC) is a recently recognized genetic cardiomyopathy. Many studies demonstrated areas of myocardial fibrosis in patients with LVNC. However, there is still many uncertainties related to the pattern of fibrosis especially in North African patients.

Methods: In our retrospective cohort, twelve patients (7 male, mean age 53 \pm 8 years) underwent magnetic resonance imaging (cine and delayed enhancement sequences) for suspected LVNC. The diagnosis of isolated LVNC was based on Petersen criteria. For each patient, the distribution of non-compaction was assessed by qualitative analysis of all seventeen left ventricular segments, according to standard seventeen-segment cardiac model. The presence or absence of late gadolinium enhancement (LGE), a surrogate of fibrosis, was qualitatively determined for each left ventricular myocardial segment.

Results: Non compaction was more commonly observed at the apex, the anterior wall and the lateral wall, especially on their apical and mid-cavity segments. A total of four (33%) patients showed LGE. All those patients had impaired left ventricular ejection fraction. Myocardial fibrosis was mid-myocardial in two cases and sub-endocardial in the remaining ones. Overall, LGE was seen in twenty-two LV segments, thirteen (59%) of which were compacted segments, while the others (41%) were non-compacted. No association was found between the pattern of fibrosis and non compaction distribution (OR=2.2, CI [0,91-5,55], $p = 0.076$).

Conclusion: In North African population with LVNC, myocardial fibrosis is observed in non compacted and compacted segments with a similar prevalence.

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Does the physical examination still have a role in patients with potential chronic heart failure?

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Background: Prognostic value of signs of congestion in chronic heart failure (CHF) is unknown.