0.56; 95%CI [0.33-0.95]). Subgroup analysis including only OSA showed a similar result after adjustment (p=0.017; HR: 0.40; 95%CI [0.19-0.89]). In multivariate cox analysis including all the polygraphic variables, only CSR and minimal oxygen saturation predicted adverse outcomes in all CHF patients untreated for SDB but AHI.

Conclusion: In patients with CHF, ventilatory treatment of SDB is associated with a better outcome independently of confounding factors.

107
Diagnostic performance of midregional proadrenomedullin in heart failure: comparison with brain natriuretic peptide levels and the echocardiographic assessment of left ventricular filling pressures
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Background: Acute decompensated heart failure is a challenging diagnosis when natriuretic peptides are misleading. Midregional-proadrenomedullin (MR-proADM) is a new prognostic peptide in heart failure.

Objectives: This preliminary study sought to assess the diagnostic accuracy of MR-proADM in heart failure in comparison with B-type natriuretic peptide (BNP) according to the echocardiographic estimation of left ventricular filling pressures (LVFP). The second purpose was to establish a cut-off value of MR-proADM between stable and decompensated heart failure.

Methods: We measured BNP and MR-proADM plasma levels in 35 consecutive patients. Concurrently, we performed a doppler echocardiography, measuring the ratio of mitral velocity to early diastolic velocity of the mitral annulus (E/e’). 25 patients were suspected of congestive heart failure and 10 patients were suffering from stable heart failure.

Results: Ischemic and dilated cardiomyopathies were the two major causes of heart failure in our population (43% vs 31%), with only 17% of heart failure with preserved ejection fraction. Median MR-proADM and BNP levels were 0.94 nmol/L and 552 pg/mL respectively. Both plasma levels were scaling up with the NYHA classification. The correlation between the E/e’ ratio and BNP levels was better than between E/e’ and MR-proADM levels (r=0.63 vs 0.41 respectively). A mild correlation was found between BNP and MR-proADM, probably due to their shared prognostic value. MR-proADM could classify most of the patients with intermediate BNP levels according to the echocardiographic estimation of LVFP.

Conclusion: This preliminary study shows that MR-proADM may be of interest for the diagnosis of decompensated heart failure in patients with intermediate BNP levels. MR-proADM levels > 0.74 nmol/L would correlate with the elevation of LVFP as determined by the E/e’ ratio, and thus be useful when echocardiography is not available.

108
Metaboreflex attenuation as a potential cause of improvement in the ventilatory response after cardiac resynchronization therapy
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Background: Patients suffering from heart failure (HF) have constant exaggerated hyperventilation (high VE/VCO2) leading to breathlessness and reduced exercise capacity. Metaboreflex over activation has been proposed to partly explain this high ventilatory response during exercise.

Objective: We aim to investigate the modification of the metaboreflex activation as a determinant in the improvement of the ventilatory response 6 months after CRT.

Methods and results: 10 HF patients (mean left ventricular ejection (LVEF) 27±4%, peak VO2 14±4 ml/kg/min, NYHA class 2.6±0.5; QRS duration >120 ms) scheduled for CRT implantation were prospectively studied. At baseline and after 6 months follow up two maximal cardiopulmonary exercise tests with and without regional circulatory occlusion (RCO) were performed with continuous VE, respiratory ratio (RR), VCO2 and VO2 measurements. RCO was achieved by inflation of bilateral upper thigh tourniquets 30 mmHg above peak systolic blood pressure during 3 minutes after peak exercise as previously described. Metaboreflex contribution to the ventilatory response was assessed as the difference in ventilatory data at the third minute during recovery between the two tests (RCO – no RCO=Δ). At baseline, patients had enhanced VE/VCO2 slope (40±9) and an evident metaboreflex contribution to the high ventilatory response (ΔVE: 3±4 L/min; p=0.01; ΔRR: 4.5±4/min; p=0.01). 6 months after CRT implantation, NYHA class, LVEF, peak VO2 and VE/VCO2 were significantly improved (1,5±0,5; p<0.001, 42±7%; p<0.001, 16±4 ml/kg/min; p=0.005; 33±9; p=0.001). Metaboreflex contribution to ventilation was reduced compared with baseline (ΔVE: –1±5; p=0.018, ΔRR: –1±3; p=0.01).

Conclusion: 6 months after CRT metaboreflex contribution to ventilation is reduced and appears as an explanation in the ventilatory response improvement in HF population.

109
Tricuspid regurgitation changes after cardioverter-defibrillator implantation: a prospective study
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Introduction: it remains controversial whether pacemaker lead implantations could interfere with tricuspid valve function. The use of rigid and thicker leads with implantable cardioverter-defibrillators (ICD) may increase this risk. We realised a prospective study to analyse the tricuspid valve function in this setting.

Method: we included patients needing a first ICD between october 2009 and may 2010 and performed echocardiographic recordings the day before implantation, during the 3 following days and at 6 weeks. These records were analysed offline independently by 2 cardiologists to assess and grade tricuspid valve regurgitation (TR) using PISA and semi-quantitative method, and to measure ventricular dimensions, function and pressures.

Results: we included 32 patients, 29 males, aged 61±14. Hypoketic cardiopathy accounted for 26 and 24 were implanted for primary prevention. Ejection fraction was 35±14 %. Non significant TR was found in 23 patients and only 2 patients has a tricuspid regurgitation greater than mild. The only significant changes occurring immediately after defibrillator implantation concerned TR, with a mean volume raising from 3.1±3.2 ml to 6.1±7.0 ml (p<0.01) and a ROS from 0.03±0.3 to 0.06±0.07 cm² (p<0.01). Six TR changed from not significant to minime (3) or mild (3), 3 from minime to mild. Two patients with a baseline mild TR raised the regurgitant volume from 5.5% to 10.5% and was higher in patients with a low ejection fraction and mild TR at baseline. At 6 weeks, the results were similar. From a clinical standpoint, no death occurred, and no worsening of heart failure was noticed.

Conclusion: we found a significant but minor increase in TR after defibrillator implantation, with no foreseeable consequences. However, our data hint that this increase may be relevant in patients with the greater baseline regurgitation and the lower cardiac output.

110
Heart failure patterns in Djibouti (Horn of Africa): an epidemiologic transition perspective
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Purpose: Cardiovascular disease patterns are changing in Africa. We aimed to document the current heart failure (HF) patterns in Djibouti.

Methods: We prospectively included Djiboutian adults hospitalized for HF in the French Military Hospital (Djibouti) between August 2008 and December 2010. Clinical and prognosis data were recorded.

Results: Among 1888 adults hospitalized in the medicine department, 45 (2.7%) had symptomatic HF. 38 (84%) males, mean age 55.8 years (range 27-75). Twenty five (56%) patients were initially hospitalized for acute pulmonary oedema. New York Heart Association (NYHA) class was 2 (40%), 3 (44%) and
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)], decompen-sation 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=0.00082). 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)], decompen-sation found 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.

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 center, observational and comparative study. We included 1500 patients followed for CHF with left ventricular ejection fraction ≤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 >140mmhg.

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.

Prognostic value of signs of congestion in chronic heart failure

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.