

## 091

**Utility of cardiac biomarkers study for the earlier diagnosis and follow-up of anthracyclines-induced cardiotoxicity in child**

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**Objectives:** Early detection of anthracyclines-induced cardiotoxicity in child with malignant disease by specific biomarkers: B-type natriuretic peptide (BNP) and cardiac troponin I (cTnI) and to establish IECA efficacy in treatment of this cardiotoxicity.

**Methods:** The authors was evaluated 27 patients (3-18 years old), from Pediatric Oncology by clinical exam; ECG; chest X-rays, echocardiography (Echo), cardiac biomarkers: BNP, cTnI and cardiac enzymes: ASAT, ALAT, CPK. Patients were divided into 3 groups (A,B,C): A-11 new cases of childhood cancer; B-10 children on treatment with enalapril for cardioprotection; C-6 children with chemotherapeutic protocol completed, without cardioprotector treatment. Patients monitoring: differently depending on the subgroup studied.

**Results:** Clinical manifestations: heart failure (1 case), atypical clinic signs (mild dyspnea, fatigue, asthenia, palpitations): 15 cases; Echo: suggestive modifications for cardiotoxicity: 6 cases (22,2%): diastolic dysfunction of the left ventricle (LV) (5), systolic dysfunction LV- 1 case; ECG changes: sinus tachycardia, minor ventricular repolarization disturbances. High values of plasma BNP (cut-off value = 100pg/ml) were highlighted in 11 patients: values 100-200 pg/ml=4 and >200pg/ml=7. cTnI values: all cases was situated under the cut-off value of 0.4 ng/mL. Increased values of plasma BNP was directly correlated with cumulative dose of anthracyclines. All children on cardioprotector treatment had normal values of BNP and cTnI. Any changes of ASAT, ALAT, CPK weren't correlated with changes in the BNP and cTnI values. Conclusions.

The results proved the utility of research of cardiac specific biomarkers for early detection of anthracyclines-induced cardiotoxicity, the correlation with stage of disease treatment and cumulative dose and the suggestive Echo changes for cardiac involvement, the favorable cardioprotector effect of enalapril in prevention and treatment of this cardiotoxicity.

## 092

**"Grey Zone" of 40-50% ejection fraction in ambulatory patient with Heart Failure. Who are these patients? Lessons from the DEVENIR study**

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**Rationale:** Heart Failure (HF) with preserved LVEF has been individualized in recent years as a specific entity, with different mechanisms, special baseline characteristics, a poor prognosis and no clearly recognized treatment. LVEF cut-off has not been clearly defined. If 50% is generally accepted as a rather specific cut-off, there remains a « grey zone » of patients with EF between 40% and 50% not clearly individualized between reduced and preserved LVEF.

**Objectives:** to describe the characteristics of patients with LVEF belonging to the "grey zone" and to compare these patients to those with either reduced or preserved LVEF.

**Methods:** Cross sectional observational survey with retrospective collection of data at hospital discharge. Patients must have been diagnosed with HF and have been hospitalized for HF within the previous 18 months. Patients are classified according to the LVEF at hospital discharge.

**Results:** 412 French out-hospital cardiologists included 1 452 patients with the inclusion criteria.

**Conclusion:** This is the first French survey in patients managed by cardiologists after hospital discharge for HF. Cardiologists mainly care for patients with low LVEF. Overall, the profile of patients with LVEF 40-50% at hospital

discharge is closer to the < 40% than to the >50% LVEF group. Characteristics according to LVEF at discharge (n=1 408) are displayed below.

**Table. Patients characteristics according to EF**

	LVEF<40% n=792	LVEF 40-50% n=366	LVEF>50% n=250	P
Age	71±12	73±11†	76±11	0,0001
Men	74%	65%	47%	0,0001
Ischemic etiology	53%	55%†*	42%	0,003
Hypertensive etiology	30%	51%†	64%	<0,0001
Valvular etiology	12%	17%†*	25%	<0,0001
Dilated cardiomyopathy	44%	25%†*	8%	<0,0001
Renal dysfunction	37%	34%†	27%	0,01
Sinus rhythm	71%	69%†	60%	0,008
Discharge BNP (pg/ml)	439	325	320	0,01
Discharge NYHA class III-IV	41%	29%†*	21%	<0,0001

*p* by ANOVA with Bonferroni correction;

†*p*<0,05 for comparisons between "grey zone" and LVEF>50%;

\**p*<0,05 for comparisons between "grey zone" and LVEF<40%.

Comparisons for age adjusted for sex.

## 093

**Look on the hold of heart failure management in Morocco, about 294 patient**

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**Objective:** the objective was to identify the epidemiological, clinical and the outcome of heart failure (HF) in a Moroccan hospital.

**Method:** A retrospective study using a serie of 294 patients hospitalized in our service from January 2005 to December 2008.

**Results:** The HF occupies 14% of hospitalizations. The mean length of stay was 14 ± 3.1 days. The mean age was 58 ± 11.5 years. Men were mostly represented with a ratio H / F = 3.5. The main cardiovascular risk factor was smoking (55%) followed by hypertension (40%) and diabetes (35%). Dyspnea was the main symptom reported in 91% of the cases. The clinical presentation was that of left (65%), right (22%) and global (23%) HF. Among electric signs, we found Atrial fibrillation (30%), a Q-wave (58%) and left ventricular hypertrophy (28%). The chest x-ray showed a cardiomegaly (89%) and signs of pulmonary overload (86%). Biology showed electrolyte abnormalities in half of the cases, renal failure (35%) and anemia (28%). In echocardiography, the mean left ventricular ejection fraction (LVEF) was 34.5 ± 5.4%. LVEF was > 45% for 26% of patients. 134 patients underwent a coronary angiography which objectified coronary damage in 84% of the cases. The main causes were ischemic heart disease (42%), valvular heart disease (24%) and hypertension (13%). most used drugs were angiotensin converting enzyme inhibitors and diuretics. 21% of patients underwent a mitral valve replacement with mechanical prosthesis. Among patients with coronary artery disease, 33% were revascularized by coronary bypass (21%) and coronary angioplasty (12%). Cardiac resynchronization was performed for 19 patients using implantable automatic defibrillator for 3 of them. Hospital mortality was 10%.

**Conclusion:** The main features of this population is the relatively young age, male predominance, ischemic heart disease as a leading cause and low rate of HF with preserved systolic function.