nutritional deficiency related, 12% myocarditis, 1% auto-immune myocarditis, 4% tachycardiomyopathy and 17% left ventricular non compaction (LVNC).

**Results**: Mean age was 4.9±6.3, 56.6% were male. Normalization of left ventricular function was achieved in 39.8% of all patients. At the multivariate logistic regression non idiopathic DCM (HR 1.3, 95% CI 0.75–2.7, p=0.01) younger age (HR 0.87, 95% CI 0.76–0.99, p=0.04) and less necessity of inotropic support (HR 0.36, 95% CI 0.10–0.85, p=0.04) predicted normalization of left ventricular performance. Overall, one and five-year survival free from HT was 83.6% respectively 69.8%, survival rate was different according to the type of DCM (figure 1). Familiar history of cardiomyopathy or sudden death (39% vs. 23%, p=0.03), previous hospitalizations (4.5% vs. 15.2%, p<0.001), lower left bundle branch block (20 vs. 35%, p=0.001), less left ventricular end-diastolic volume (69 (59; 82) vs. 100 (81; 123) ml/m², p<0.001), lower rate of right ventricular dysfunction (9 vs. 21%, p=0.003), of malignant ventricular arrhythmias (4.5% vs. 15.2%, p=0.001) Finally 29 out of 175 HFrEF patients (17%) evolved to HFrEF after a median follow-up of 70 (25; 43) months, consistently worsening their long-term prognosis.

**Conclusions**: HFrEF patients identifies a consistent subgroup of DCMs diagnosed in an earlier age and presenting an apparent better evolution. However, some HFrEF DCMs patients evolve into HFrEF despite medical therapy and this evolutions leads a worse prognosis.

#### P710 | BEDSIDE

**Clinical significance of excessive myocardial trabeculation in dilated cardiomyopathy patients**

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**Methods and results**: From 1988 to 2013 we analysed 959 idiopathic DCM patients consecutively enrolled. One hundred and seventy-five (18%) fulfilled the criteria for HFrEF, while 637 patients had a EF <40%. At baseline, compared with patients with reduced EF (HFrEF), HFrEF presented features of a less advanced disease: lower NYHA III–IV classes (5 vs. 29% in HFrEF vs. HFrEF group respectively, p<0.001), lower left bundle branch block (20 vs. 35%, p=0.001), less left ventricular end-diastolic volume (69 (59; 82) vs. 100 (81; 123) ml/m², p<0.001), lower rate of right ventricular dysfunction (9 vs. 21%, p=0.003), of malignant ventricular arrhythmias (4.5% vs. 15.2%, p=0.001). Finally 29 out of 175 HFrEF patients (17%) evolved to HFrEF after a median follow-up of 70 (25; 43) months, consistently worsening their long-term prognosis.

**Conclusions**: HFrEF presents features of a less advanced disease: lower NYHA III–IV classes (5 vs. 29% in HFrEF vs. HFrEF group respectively, p<0.001), lower left bundle branch block (20 vs. 35%, p=0.001), less left ventricular end-diastolic volume (69 (59; 82) vs. 100 (81; 123) ml/m², p<0.001), lower rate of right ventricular dysfunction (9 vs. 21%, p=0.003), of malignant ventricular arrhythmias (4.5% vs. 15.2%, p=0.001). Finally 29 out of 175 HFrEF patients (17%) evolved to HFrEF after a median follow-up of 70 (25; 43) months, consistently worsening their long-term prognosis.

**Conclusions**: HFrEF patients identifies a consistent subgroup of DCMs diagnosed in an earlier age and presenting an apparent better evolution. However, some HFrEF DCMs patients evolve into HFrEF despite medical therapy and this evolutions leads a worse prognosis.

#### P712 | BEDSIDE

**The Selvester QRS score as a predictor of cardiac events in nonischemic dilated cardiomyopathy**

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**Background**: Myocardial fibrosis has an impact on poor prognosis in patients with nonischemic dilated cardiomyopathy (NIDCM). The Selvester QRS score using twelve-lead electrocardiogram (ECG) has been reported to be of restive both amount of myocardial scar and poor prognosis in patients with myocardial infarction. However, little is known about its availability in patients with NIDCM.

**Purpose**: The purpose of this study was to investigate the prognostic value of the Selvester QRS score and the association with collagen volume fraction (CVF) in patients with NIDCM.

**Methods**: We enrolled 93 consecutive NIDCM patients (68 males, 53±13 years). Patients with permanent pacemaker or cardiac resynchronization therapy device were excluded. All patients were hospitalized in our institute for examination under each individual stable condition of heart failure (HF) and underwent twelve-lead ECG, echocardiography, right heart catheterization and endomyocardial biopsy. The CVF of biopsy specimen was measured by two observers in a blinded manner. The patients were divided into two groups based on the median value of the Selvester QRS score as follows; low score group (LS group, ≤3 points) (n=49) and high score group (HS group, >3 points) (n=44). Cardiac events were defined as a composite of cardiac death, hospitalization for worsening HF, and lethal arrhythmia. All patients were followed up for a mean of 4.4 years.

**Results**: Means of left ventricular ejection fraction, plasma B-type natriuretic peptide levels, the Selvester QRS score, and CVF were 32%±15%, 185 pg/mL, and 3.36%, respectively. During the follow-up periods, 22 cardiac events were observed (cardiac death, n=1; hospitalization for worsening HF, n=12; lethal arrhythmia, n=9). In Kaplan–Meier survival analysis, the HS group had more cardiac events compared with the LS group (log-rank test, p=0.01).

**Conclusions**: The Selvester QRS score as a predictor of cardiac events in nonischemic dilated cardiomyopathy patients.
events than the LS group (log-rank, p=0.007) (Figure). Cox proportional hazard regression analysis revealed that the Selvester QRS score was an independent determinant of cardiac events (hazard ratio, 1.21; 95% confidence interval, 1.04–1.40; p=0.02). In addition, mean of CVF was higher in the HS group (4.79%) than in the LS group (2.02%) (p<0.001) and there was a positive correlation between the Selvester QRS score and CVF (r=0.81, p<0.001).

Conclusions: The Selvester QRS score is useful to predict future cardiac events in NIDCM, reflecting myocardial fibrosis as assessed by CVF.

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Large inter-laboratory variability in the assessment of the presence of viral genomes in endomyocardial biopsies in patients with recently diagnosed cardiomyopathy
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Background and aim of the study: Dilated cardiomyopathy (DCM) may represent a sequela of acute or chronic myocarditis, either due to persistence of an infectious agent (usually a virus) or secondary autoimmune myocardial injury. Accurate virological analysis of endomyocardial biopsy (EMB) specimens in patients with DCM is thus of crucial importance. Therefore, we aimed to compare the results of echocardiographic parameters or prognosis of the patients with RODCM.

Methods: In 20 consecutive patients (52±12 years, 14 men) with recently diagnosed DCM (left ventricular ejection fraction ≤27%), unexplained DCM were independently studied in 2 different microbiological laboratories (A and B) by using qualitative PCR that was focused on the detection of genomes of coxsackievirus B and enterovirus B19 (PVB19) in lab A and in 10 patients (PVB19 in 8 subjects, HHV6 and CMV in 1 individual) in lab B. Comparative agreement between laboratories was present in 7 patients (35% of the whole study group) and there was no case of partial agreement.

Results: A viral genome was found in 12 patients (PVB19 in 11 subjects and HHV6 in 3 individuals) in lab A, and in 10 patients (PVB19 in 8 subjects, HHV6 in 3 subjects and CMV in 1 individual) in lab B. Comparative agreement between laboratories was present in 7 patients (35% of the whole study group) and there was no case of partial agreement.

Conclusions: The disagreement in PCR viral analysis in two thirds of cases showed substantial variability in lab A and B agreement was low in patients with recently diagnosed DCM. Microbiological laboratories involved in PCR diagnostics of viral persistence in DCM should regularly validate their methodology and undergo independent evaluation of their results.

P715 | BEDSIDE
A dilated cardiac phenotype and neuromuscular disorders predict mortality in left ventricular noncompaction
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Background and aim: It is unknown whether the cardiac phenotype of left ventricular hypertrobrication/noncompaction (LVHT) plays a prognostic role. Thus, aim of the study was to assess whether the prevalence of neuromuscular disorders (NMDs) and the prognosis of LVHT-patients regarding mortality or cardiac transplantation is dependent on the cardiac phenotype.

Methods: Included were patients in whom LVHT was diagnosed between 1995–2015 in a hospital echocardiographic laboratory. The cardiac phenotype was assessed as “dilated if the left ventricular enddiastolic diameter (LVEDD) was >57mm and the left ventricular fractional shortening (FS) was <26%,” as “hypertrophic if the LVEDD was ≤58mm, the FS was <25% and left ventricular posterior wall (LVPWT) as well as interventricular septal thickness (IVST) both were >13mm, as “intermediate” if LVEDD was >57mm and FS ≥25% or if LVEDD was ≤58mm and FS ≤26% and as “normal” if LVEDD was ≤58mm, FS >25%, and IVST and LVPWT ≤14mm. The pharmacotherapy, decision for electronic devices or cardiac transplantation was carried out by the treating physicians. In October 2016, it was assessed if the patient was alive or had undergone cardiac transplantation.

Results: LVHT was diagnosed in 273 patients (80 females, age 53±16 years). One-hundred-ninety-six patients (72%) were investigated neurologically. A specific NMD was diagnosed in 16%, NMD of unknown etiology was diagnosed in 40% and no neurological investigation was normal in 29%. The cardiac phenotype was assessed as dilated in 126 patients (46%), hypertrophic in 22 (8%), intermediate in 45 (17%) and as normal in 80 (29%).

During a follow-up of 7.4±5.7 years, 59 patients received electronic devices (implanted cardioverter defibrillator, cardiac resynchronization device n=18, implanted cardioverter/defibrillator n=17, antibradycardic pacemaker n=11, cardiac resynchronization device n=4, wearable defibrillator n=4, implanted loop recorder n=3, left ventricular assist device n=2). Eighty-four patients died and 6 underwent cardiac transplantation. The most frequent causes were heart failure (n=26), sudden death (n=13) and pneumonia (n=11). The mortality and rate of cardiac transplantation differed between the phenotypes and was highest in the dilated group and lowest in the hypertrophic group. Among patients with the same phenotype the mortality differed between the patients with and without NMDs.

Conclusion: The prognosis of patients with LVHT is dependent on the cardiac phenotype. LVHT patients with the dilated phenotype have the worst prognosis. Among the patients with the same phenotype, prognosis is dependent on presence or absence of a NMD. These findings are in accordance with other cohort studies which showed that prognosis of LVHT patients is dependent on systolic function and heart failure. It has to be assessed if close follow-up and special therapy may improve the prognosis of patients with the dilated type of LVHT.

P716 | BEDSIDE
Prevalence of left ventricular hypertrobrication and non-compaction in a CMR series
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Introduction: In cardiac resonance imaging, the excess of trabeculae in the LV generates questions to make a diagnosis.

Methods: 784 consecutive cardiac magnetic resonance (CMR) studies from a tertiary centre from 2003–2010 were reviewed: 67% men, age 41±17, 97% stent from cardiologist. The reason to request proof was cardiomyopathy (44%), arrhythmias (17%), ischemic (9%), myocarditis (7%).

End-diastolic short axis images were analyzed. Left ventricular hypertrobrication (LVHT) was considered when remarkable trabeculation was identified in ≥2 segments and in ≥2 consecutive slices. Non-compaction (LVCN) was considered when trabeculae were separated by subendocardial and compacted layer was <2 (Jenni criteria) or ≥2.3 (Petersen criteria).

Studies were classified into 4 categories according to the presence or absence of dilatation (D) or hypertrophy (H). Dilatation was defined as LVEDd ≥105 mm²/m² for men or 106 mm²/m² for women, and Hypertrophy as maximal LV wall thickness ≥15 mm. Individuals could then have D+H, isolated D, isolated H or none of them.

Results: 103 (13%) had LVHT, most of whom (53%) had normal LV ejection fraction (LVEF~50%). Half were non-D non-H hearts. The other half was distributed similarly between dilated, hypertrophic and hypertrophic-dilated cardiomyopaties.

The prevalence of LVCN in our population was 6% (Jenni) and 5% (Petersen).

Patients with LVNC according to Jenni criteria have predominantly (42%) a mod- erate non-compaction (LVEF ~45–50%), half (52%) of which were non-dilated or hy- pertrophic, and the other half distributed among the other cardiomyopathies with a higher prevalence of dilated (37%).

Conclusions: In patients referred for magnetic resonance study, the proportion