Background HCM has a diverse clinical spectrum and prognostication can be challenging. N-terminal pro-brain natriuretic peptide (NT-proBNP) has been recently proposed for predicting death in HCM. Mid-regional pro-atrial natriuretic peptide (MRproANP) is a stable natriuretic peptide reflecting increased atrial wall tension, with potential advantages over conventional natriuretic peptides.

Purpose To determine the prognostic value of MRproANP in HCM compared with NTproBNP.

Methods 491 patients with HCM were prospectively enrolled from 11 European centres in the Eurogene Heart Failure study. All patients had clinical, ECG, echocardiographic evaluation and MRproANP and NTproBNP measurement. Follow-up was available for 356 patients.

Results At baseline, log MRproANP and log NTproBNP were both independently associated with age, weight, NYHA class, left ventricular ejection fraction (LVEF), wall thickness (WT) and left atrial dimension (LA), but the association was stronger between LA and MRproANP than NTproBNP and stronger between WT and NTproBNP than MRproANP. During a median follow-up of 24 months, 29 patients (8%) had a primary end point defined as death, heart transplantation, left ventricular assist device (LVAD) and HF hospitalization. In univariate analysis, both log NTproBNP (p=0.0001) and log MRproANP (p<0.0001) were strongly associated with primary endpoint. However, in a multiple stepwise regression analysis, entering first clinical data, then echocardiography and then natriuretic peptides, the best model for predicting outcome was NYHA (HR=3.1, CI 95% [1.43-6.73], p=0.004), previous HF hospitalization (HR 2.49, CI 95% [1.09-5.69], p=0.03), LVEF (HR=0.70, CI 95% [0.55-0.88], p=0.003), and log MRproANP (HR=3.27, CI 95% [1.78-6.09], p<0.0002).

Conclusions In this large cohort of HCM patients, MRproANP outperformed NTproBNP in the prediction of the combined event cardiac death/transplantation/LVAD and hospitalization for heart failure.

The author hereby declares no conflict of interest

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Utility of research of the QT/QTc intervals dispersion and cardiac biomarkers for early diagnosis of anthracycline induced cardiotoxicity in children

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Purpose To establish the usefulness of research of dispersion QT / QTc intervals and values of cardiac biomarkers- B natriuretic peptide (BNP) and troponin (cTnI) for early detection of cardiotoxicity in children with malignancies.

Methods Patients: 46 children (2 months-18 years), treated with anthracyclines for malignancies. Control group: 20 healthy children without cardiovascular history. Patients and controls were evaluated by clinical exam, surface 12 lead ECG (3 consecutive cycles of measuring the QT/QTc intervals and QT/QTc intervals dispersion), Doppler echocardiography (echo), determining plasma levels of cardiac biomarkers BNP and cTnI.

Results Significant changes of the parameters in patients compared with controls:
- increasing the dispersion of the QT / QTc intervals (73% of cases, especially those with a cumulative dose of anthracyclines >250mg/m²) and in patients with echo changes induced by anthracycline cardiotoxicity, even only with LV diastolic dysfunction:
  - the mean of QT dispersion: 80 milliseconds in patients-40 milliseconds in controls;
  - the mean QTc dispersion: 87,103 milliseconds in patients-55,47 milliseconds in controls;

The author hereby declares no conflict of interest