of developing heart failure in hypertrophic cardiomyopathy (HCM). The association between LVOTO and LV torsional mechanics has not been well studied.

**Aim:** Compare standard echocardiographic measures and myocardial deformation in patients with HCM.

**Methods:** Echocardiography using GE Vivid 7/9 was performed in 372 patients (HCM). In 105, peak pressure gradient >30 mmHg at rest or with Valsalva manoeuvre was measured.

**Results:** Patients with LVOTO were older with smaller LV end-systolic dimension (LVESD) and LV end-diastolic dimension, higher LV ejection fraction, longer anterior mitral valve leaflet length (AMVLL), higher early transmural pulsed-wave to septal tissue Doppler velocity ratio (E/e') and higher peak torsion. Using stepwise forward logistic regression, LVESD, AMVLL, E/e' and peak torsion were independently associated with LVOTO (see Table 1). Peak torsion was similarly enhanced in patients with LVOTO manifest only during Valsalva (20.5 ± 7.9, P = 0.009) compared to patients without LVOTO (15.8 ± 6.3).

**Conclusion:** Peak torsion is independently associated with LVOTO in patients with HCM. Peak torsion was similarly exaggerated in patients with only latent LVOTO suggesting it may play a contributory role to LVOTO in HCM.

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**D88**

**Familial Dilated Cardiomyopathy – Enhancing Detection Using Systematic Screening**

M. Stubbs *, J. Skinner, P. Ruysgrok

**Background:** Dilated cardiomyopathy (DCM) is the leading indication for heart transplantation in New Zealand (NZ). The familial subtype (FDCM) is aggressive, presents early, and is implicated in up to 50% of idiopathic DCM (IDCM). Diagnosis requires an affected individual having ≥2 affected close relatives. Adequate family pedigree analysis is diagnostic-estically crucial, and screening relatives is imperative as pre-symptomatic therapy improves outcomes. We utilised a validated family history survey to screen our NZ heart transplant population for FDCM more systematically.

**Methods:** Medical records of living heart transplant patients with DCM or FDCM diagnoses (77/339 patients) were reviewed. Patients were provided our survey via post/email and at clinic visits. We evaluated our 12 question clinical survey’s efficacy in obtaining a complete three-generation family history and compared that to information documented in the medical records.

**Results:** Fifty-one (66.2%) surveys were returned. Complete family history was obtained in 47/51 (92.2%), compared with 10/51 (19.6%) specifically documented in medical records. Responders identified 16 relatives who were also referred for heart transplantation, or who died ≤50 years with cardiomyopathy.

The tool diagnosed FDCM in 25/51 (49.0%), with a further 3 possible FDCM, already yielding 6 additional patients not previously diagnosed. The mean age at first presentation of FDCM was 37 years (23 were male, 2 female), compared with 43 years in the IDCM group.

**Conclusion:** Utilising a formal family screening tool improves pedigree analysis ensuring more effective detection of FDCM, which is prevalent in the NZ transplant cohort. Formalised systematic screening has great potential to improve outcomes.

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**D89**

**Generation of Novel Cardiac Specific AAV Vectors by Directed Evolution in Human iPSC Derived Cardiomyocytes**

C. Kok 1,2, S. Igoor 1, R. Skelton 1, J. Chong 1,2,3, D. Kimberley 2, M. Cabanes-Creus 5, I. Alexander 6, L. Lisowski 4,8, E. Kizana 1,2,3

1 Center for Heart Research, Westmead Institute For Medical Research, Westmead, Australia
2 Westmead Clinical School, Faculty of Medicine and Health, University of Sydney, Sydney, Australia
3 Department of Cardiology, Westmead Hospital, Westmead, Australia
4 Vector and Gene Engineering Facility, Children’s Medical Research Institute, Westmead, Australia
5 Translational Virology Group, Children’s Medical Research Institute, Westmead, Australia
6 Gene Therapy Research Unit, Children’s Medical Research Institute, The University of Sydney, Faculty of Medicine and Health and Sydney Children’s Hospitals Network, Westmead, Australia
7 The University of Sydney, Sydney Medical School, Discipline of Child and Adolescent Health, Westmead, Australia
8 Military Institute of Hygiene and Epidemiology, The Biological Threats Identification and Countermeasure Centre, Pulawy, Poland

Recombinant adeno-associated viral (rAAV) vectors have emerged as one of the most promising gene therapy vectors. However, recent evidence has indicated that successful rAAV-mediated gene therapy in animal models may not translate to the same therapeutic benefit in humans. This is...