BURDEN OF PATIENT-REPORTED ARRHYTHMIA FOLLOWING CATHETER ABLATION IN PATIENTS WITH PAROXYSMAL ATRIAL FIBRILLATION

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BACKGROUND: Atrial fibrillation recurrence following catheter ablation is classified as any episode of arrhythmia in excess of 30 sec. While rigorously followed in clinical investigation, little is known about the correlation of AF recurrences classified using this definition and arrhythmia burden.

METHODS AND RESULTS: Baseline clinical and procedural data were prospectively collected on a cohort of consecutive patients with symptomatic paroxysmal AF undergoing PVAI by two operators over 7 years. An ECG was recorded at each follow-up visit along with Holter monitoring 1, 3, 6 and 12 months following PVAI and every 6 months thereafter and loop event monitoring for symptomatic patients. Likelihood of having an AF recurrence defined as 30 sec or greater was then assessed in the context of AF burden per day of follow-up reported by the patients. Detailed AF burden information was available on 478 patients with paroxysmal AF (age 58±11 years, 69% male, 1.1±1.0 years of follow-up). Overall, 198 (42%) patients had an early recurrence, 36 (8%) had a recurrence at 3 months, 98 (27%) had a recurrence at 6 months and 30 (14%) had a recurrence at 12 months. Baseline symptomatic AF burden was 0.40±0.53 episodes /day. At 3 months, 6 patients were in persistent AF or atrial flutter. AF burden in those patients who still had paroxysmal AF was 0.12±0.28 episodes / day (p<0.0001 vs baseline). At 6 months 3 further patients developed persistent AF and 3 of the patients with persistent AF at 3 months were now paroxysmal, one became asymptomatic on an antiarrhythmic drug (AAD) and one became asymptomatic off AAD. AF burden in the remaining patients with paroxysmal AF was 0.14±0.25 episodes / day, (p<0.0001 vs baseline, p=0.68 vs 3 months). At 12 months 1 further patient developed persistent AF. One of the patients who previously had persistent AF was now paroxysmal, the rest underwent repeat ablation procedures. AF burden in the remaining patients with paroxysmal AF was 0.06±0.15 episodes / day (p<0.0001 vs baseline, p=0.12 vs 3 months, p=0.04 vs 6 months).

CONCLUSION: While consistent reporting of outcomes following AF ablation is of paramount importance, symptomatic AF burden following the procedure appears to diminish significantly and early even in patients who fail ablation based on the >30 sec recurrence reporting. While exact measurement of AF burden in patients without implantable devices is impossible to achieve, daily symptomatic AF burden should be reported in AF ablation studies along with recurrence rates.
and mortality increased with increasing prevalence of diabetes (0.132 increase in HR for every 1% increase in prevalence of diabetes; 95%CI 0.040-0.44). Other factors did not modify the effect of NT-proBNP.

CONCLUSION: HF guidelines recommend serial measurement of natriuretic peptide levels for prognostication. This meta-analysis identified that higher BNP levels are associated with increased mortality in ambulatory HF patients, irrespective of varying patient characteristics. The effect of NT-proBNP was accentuated with increasing diabetes prevalence. More information is needed to evaluate whether changes in serial measurements of natriuretic peptides are associated with changes in prognosis. Future studies are encouraged to use natural instead of log units to easily extrapolate results into the clinical setting.

068 YIELD OF GENETIC TESTING FOR HYPERTROPHIC CARDIOMYOPATHY ACCORDING TO CONTEMPORARY VARIANT INTERPRETATION GUIDELINES: RESULTS FROM A LARGE CANADIAN REFERRAL CENTRE

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BACKGROUND: The yield of genetic testing for hypertrophic cardiomyopathy (HCM) has been reported to be between 30% and 60%. Differences in populations studied are likely to be one explanation for this wide variation. Changes in the way we interpret genetic variants is likely to be a contributing factor. We aimed to analyze the genetic results from a large Canadian referral centre interpreted according to contemporary guidelines in order to examine the yield of genetic testing in the Canadian population.

METHODS AND RESULTS: HCM index cases who underwent genetic testing between 2005 and January 2018 were included. All variants were re-classified according to the guidelines of the American College of Medical Genetics (ACMG) and subsequent gene-specific adaptations. Of 1,730 cases tested 393 (23%) were tested for 5 sarcomeric genes and 1,337 (77%) were tested for 8. In 325 patients (19%) a pathogenic (P) or likely pathogenic (LP) variant was identified and variants of unknown significance in 247 (14%). The majority (57%) of P/LP variants were found in the MYBPC3 gene, followed by the MYH7 gene (31%). The yield of TNNI3, TPM1 and TNNT2 genes was 4%, 3% and 2%, respectively. The 3 remaining genes combined (MYL2, MYL3 and ACTC1) were accountable for 3% of P/LP variants. Of the MYBPC3 variants 89% were loss-of-function (nonsense, frameshift or splice-site), one was an in-frame deletion and the rest (11%) missense.

CONCLUSION: The yield of genetic testing in our centre was lower than previously reported. Possible explanations include lack of a founder mutation in the heterogenous Canadian population and higher referral rates of non-familial cases which are less likely to be gene-positive. Finally, using current and stricter guidelines for variant interpretation may have led to less variants being classified as P/LP, and may also explain the higher percentage of MYBPC3 variants among gene-positive cases. Further studies are required in order to determine whether this reflects the true genetic landscape of HCM or the limitations of current variant interpretation methods.

069 ACTIVATION OF ENDOPLASMIC RETICULUM STRESS AND THROMBOSPONDIN-1 ANTI-ANGIOGENIC MECHANISMS IN PLACENTAS OF HYPERTENSIVE MICE

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BACKGROUND: Thrombospondin-1 (Thbs1) is an endothelial focal adhesion glycoprotein with anti-angiogenic activity when binding to its receptors CD36, LRP1 and CD47 by activating pro-apoptotic but also anti-proliferative and anti-migratory mechanisms. Preeclampsia is characterized by poor vascularization of the placenta mainly caused by hypoxia insults, triggering oxidant and endoplasmic reticulum (ER) stress states that are now known to contribute to placental insufficiency. Nevertheless, the activation of Thbs1 is still unknown in preeclampsia. Our hypothesis is that enhanced placental ER stress could associate with Thbs1 up-regulation in placental tissues and endothelial cells of a genetic mice model of chronic maternal hypertension and superposed preeclampsia.

METHODS AND RESULTS: Placentas were collected from n=8 group transgenic pregnant mice overexpressing human renin and angiotensinogen and controls (C57BL/6) at 18.5 S42 Canadian Journal of Cardiology Volume 35 2019