n=8; p<0.05 vs. WT) than in WT (144±14.3, n=6); while in LQT5 with impaired beta-subunit KCNE1 no baseline QT prolongation was observed (137±5.3, n=8). The IKs-activator DHA significantly shortened QTc (ms) in vivo only in rabbits with functional alpha- and beta-subunits of IKs channels, i.e., in WT (-12.0±4.60, n=6, p<0.01) and more pronouncedly in LQT2 rabbits (-20.7±4.19, n=6, p<0.01). In contrast, DHA had no effect on QTc in LQT1 with loss-of-function mutation in KvLQT1 (+6.22±7.99, n=5), and in LQT5 (-3.40±5.05, n=8) and LQT2-5 rabbits (-0.07±2.80, n=8), that harbour loss-of-function mutations in KCNE1.

Similarly, ex vivo, DHA significantly shortened APD75 (ms) in WT (-12.3±5.86, n=7, p<0.01) and in LQT2 rabbits (-14.7±9.44, n=6, p<0.05), but had no effect on APD75 in LQT1 (+5.66±11.3, n=7), LQT5 (-2.25±6.62, n=7) and LQT2-5 rabbits (-6.00±9.03, n=7). Moreover, DHA significantly decreased APD triangulation (APD90-APD30) only in LQT2 hearts (-6.57±2.49, n=6, p<0.01).

Conclusion: Docosahexaenoic acid exerts a genotype-specific beneficial shortening effect of QTc, APD and AP triangulation through activation of IKs in LQT2 rabbit models but has no effects if either alpha- or beta-subunits to IKs are functionally impaired. DHA could thus represent a novel therapeutic tool in LQT2 syndrome.

P605

Appropriate shocks and mortality in diabetic vs. non-diabetic patients with prophylactic implantable cardioverter-defibrillator

H.V. Huikuri[1], M.J. Junttila[1], R. Willems[2], L. Bergau[3], M. Malik[4], B. Vandenberg[2], M.A. Vos[5], G. Schmidt[6], B. Merkely[7], A. Lubinski[8], M. Svetsolak[9], F. Braunschweig[10], M. Harden[11], M. Zabel[11], C. Sticherling[12]. [1]University of Oulu and University Hospital of Oulu, Research Unit of Internald Medicine, Oulu, Finland; [2]University of Leuven, Dpartment of Cardiovascular Sciences, Leuven, Belgium; [3]University Medical Center Gottingen (UMG), Heart center, Dicision of Cardiology, Gottingen, Germany; [4]National Institute for Medical Research, National Heart and Lung Institue, Imperial College, London, United Kingdom; [5]University Medical Center Utrecht, Medical Physiology, Utrecht, Netherlands; [6]Hospital Rechts der Isar, Medizinische Klinik und Poliklinik, Munich, Germany; [7]Semmelweis University Heart Center, Budapest, Hungary; [8]Medical University of Lodz, Lodz, Poland; [9]University Hospital Bratislava, Bratislava, Slovak Republic; [10]Karolinska Institute, Stockholm, Sweden; [11]University of Gottingen, Department of Medical Statistics, Gottingen, Germany; [12]University Hospital Basel, Basel, Switzerland. On behalf of EU-CERT Investigators

Background: Diabetes increases the risk of all-cause mortality and sudden cardiac death (SCD). The exact mechanisms leading to sudden death in diabetes are not well known. We compared the incidence of appropriate shocks and mortality in diabetic vs. non-diabetic patients with implanted prophylactic cardioverter-defibrillator (ICD) included in the retrospective EU-CERT study.

Methods and results: A total of 3535 patients from 12 European centers with a mean age of 63.7±11.2 (82% males) at the time of ICD implantation were included in the analysis. A total of 995 patienst (28%) had the history of diabetes. All patients had ICD implanted for primary prophylaxis. End-points were appropriate shock and all-cause mortality. Analyses were performed using a competing risk model stratified by study site, based on the proportional subdistribution model by Fine and Gray. First, parameters were tested in a univariate model and all variables with a significant effect were included in a multivariate model. Mean follow-up time was 3.2±2.3 years. Diabetes was associated with a lower risk of appropriate shocks in univariate analysis with a hazard ratio (HR) of 0.80 (95% CI; 0.65–0.99, p=0.047), and remained so in the multivariate analysis including age, etiology of heart disease (ischemic vs. non-ischemic), gender, and left ventricular ejection fraction in the model (HR; 0.77; 95% CI; 0.62–0.96, p=0.02). However, diabetic patients had a significantly higher mortality with a univariate HR 1.42 (95% CI; 1.21–1.67, p<0.001) and multivariate HR of 1.30 (95% CI; 1.11–1.53, p=0.001) including NYHA functional class in addition to variables above in the model.

Conclusions: All-cause mortality is higher in diabetic than in non-diabetic patients with ICDs for primary prophylaxis. However, diabetic patients have a lower incidence of appropriate shocks, indicating that the excess mortality is not caused by ventricular tachyarrhythmias. These findings suggest a limited potential of prophylactic ICD therapy to improve survival in diabetic patients with impaired left ventricular function.

POSTER SESSION 1
RISK FACTORS AND PREVENTION

P606

Prevalence of major cardiovascular risk components in the general population. A collaborative survey from 68.000 electronic health records

G. Casolo, A. Cagnolo, M. Pardini, G. Cavirani. Versilia Hospital, Department of Cardiology, Lido di Camaiore, Italy

Background: According to the 2016 ESC prevention guidelines, several compo-

nents of high and very high cardiovascular risk (CV) qualify patients for aggressive preventive measures. These includes clinically or unequivocally documented CV disease on imaging, chronic kidney disease (CKD), and diabetes. Few data are available regarding the population prevalence of these components. Nevertheless this information is necessary to evaluate the burden of disease in the, allocate appropriate resources, and plan effective actions. One important source of information is represented by the Electronic Health Records (EHRs).

Methods: Our sanitary district covers about 160.000 inhabitants assisted by 140 GPs. We identified 50 GPs assisting a total of 68.993 Patients (Pts) older than 16 years and whose electronic archives were of sufficient quality according to some pre-specified standards. On the basis of the IC9-CM codes assigned, we identified patients belonging to the high and very high CV risk. These included previous myocardial infarction, CABG or PCI, angina pectoris, any recorded atherosclerotic plaque, aortic aneurysm, peripheral artery disease (PAD), previous stroke / TIA, diabetes, CKD. We did not include patients at high and very high risk with only elevated SCORE.

Results: Out of the 68.993 Pts examined we found 9.471 Pts with at least one component of CV risk. This represents a prevalence of 13.8% of major component of CV risk. The mean age of the Pts was 73+12 yrs, 55% being males. Females were older than males (75+12 vs 71+12 yrs, p<0.001). The prevalence of diabetes was 6.1% (n° 4214), affecting 44.5% of the population at risk. Coronary Artery Disease (CAD) had a prevalence of 4.5% (n° 3133) in the general population representing 33% of the population at risk. In the population at risk 16.2% had suffered a previous Stroke/TIA, and 24.3% had different types of PAD. When diabetes was excluded, the residual population at risk decreased to 7,62% and CAD was present in 44.2%. The prevalence of CAD in the general population was therefore similar to that of diabetes (6.1%). The most common associations of components of risk resulted to be CAD and Diabetes (8.55% of the whole population at risk), followed by PAD and Diabetes (6.2%), and Diabetes and CKD (3.67%). The contemporary presence of more than one component of CV risk increased with age (p<0.001). Aortic abdominal aneurysm was more frequently found in males, while females more frequently had a TIA/Stroke.
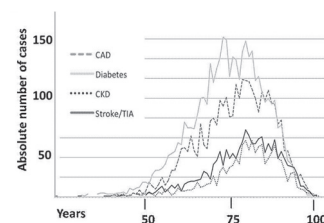
Distribution of risk by age.

Conclusions: More than 10% of the general population over 16 yrs need aggressive preventive measures to reduce the CV risk. Even excluding diabetes, a large proportion of Pts remain at high or very high risk of events. Such a prevalence represent a major challenge for any Health Organization. EHR from GPs may represent an important source of information for quality improvement programs.

P607

Feasibility of a population-based cardiovascular cohort in Sub-Saharan Africa: experience of TAHES study

S.A. Amidou[1], Y.C. Houehanou[1], P.-M. Preux[2], P. Lacroix[2], D.S. Houinato[1]. [1]Faculty of health sciences, Laboratory of Chronics and Neurological Diseases, Cotonou, Benin; [2]University of Limoges, INSERM UMR1094, Tropical Neuroepidemiology, Limoges, France. On behalf of TAHES Group

Background: Sub-Saharan Africa (SSA) is facing a growing burden of cardiovascular diseases (CVD) due to increasing urbanization and changing lifestyle. Available tools for prediction of CVD are adapted from western regions data. So, there is a need for building appropriate tools from SSA population-based cohorts.

Purpose: The aim of the pilot phase of TAHES was to explore the feasibility of CVD cohort study in a rural setting in SSA.

Methods: TAHES is a prospective cohort ongoing since February 2015 among all people aged 25 years or above living in a village. Risk factors data were collected using a standardized questionnaire adapted from the WHO STEPS instrument through a baseline door-to-door survey, followed by annuals visits. A daily medical network surveillance was implemented for recording events of interest: lower extremity artery disease (LEAD), myocardial infraction, stroke, congestive heart failure and deaths. To offset the low coverage and limited use of modern health services, a community-based surveillance through household and traditional healers weekly visit was added. Community agent notified events and administrated a verbal autopsy in case of death. Lack of street-address and civil registration were fixed by collecting geographic data for each household and identifying each subject using a composite 8 digit ID number, including specifics numbers for area (1 digit), house number (3 digits), household number (2 digits) and individual number (2 digits).

Results: During 3 years, 1793 participants were enrolled, equaling to 4068.7 persons years of follow-up. Women represented 61.1% and the mean age was 42.7±16.5 years. Baseline prevalence was 2.3% (95% CI: 1.7%-3.2%) for smoking, 9.15% (95% CI: 7.9%-10.6%) for harmful use of alcohol, 9.3% (95% CI: