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Improving quality of care and financial burden in cardiology: a new approach with checklist based clinical pathways - first results
A. Reinhardt1, M. Ochsner2, J. Reiken2, C. Wippinger2, H. Schunkert1, P.W. Radke1, T.T. Krauss1,1. German Heart Center, Clinic for Heart and Circulatory Diseases, Munich, Germany; 2Medical Clinic II, University Hospital Schleswig-Holstein, Campus Luebeck, Luebeck, Germany; 3Schön Klinik Neustadt, Department of Cardiology, Neustadt (Ostholstein), Germany; 4The Boston Consulting Group, Hamburg, Germany

Purpose: Clinical pathways (CP) have increasingly been introduced into surgery for their impact on resource use. The aim of CPs is to enhance effectiveness and quality of care by guideline specific and standardized treatment and to subsequently reduce health care costs. Due to higher disease complexity and less standardized treatment approaches, cardiology and other specialties of internal medicine have so far only seen sporadic introduction of CPs.

Methods: In order to study feasibility of CP implementation into the clinical routine of a German university cardiology department, a novel checklist based CP system was broadly introduced. Key elements were 14 disease-specific CPs each detailing relevant diagnostic and therapeutic procedures as well as mandatory safety checks. Overall goal was to enhance standardization and cross-functional workflow, improve CP-implementation feasibility and to evaluate clinical burden measured in average length of hospital stay (ALOS).

Results: Results of all months of CP use (≥ 4500 patients included) and compared to pre CP introduction.

Results: Evaluation of used CP documents showed high compliance levels for CP use among staff (CPs used in ≥ 95% of patients) while surveys for all involved functions underlined usability. Following CP introduction no significant change in ALOS was found in "high-volume diseases" (n=380 to 780 per year) e.g., angina pectoris (LOS ±2.0; p=0.78), myocardial infarction (-3.0%; p=0.63) or heart failure (-0.1%; p=0.17), while there was significant LOS-reduction for AbA (-4.9%; p<0.01). Hypertensive urgency patients showed an increase in LOS (+16.9%; p=0.01) while "low-volume diseases" (n=29 to 150) revealed substantial LOS-reductions (syncope -23.1%, p<0.001; DVT -20.8, p=0.03; PE -10.2%, p=0.07)

Conclusions: We showed feasibility of successful CP introduction within internal medicine by developing a novel checklist based approach built on cross-functional functions underlined usability. Following CP introduction no significant change in ALOS was found when comparing CPs used in 95% of patients included and compared to pre CP introduction.

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Pre-diabetes is a disease associated with significant cardiac and cardiovascualar structural and functional abnormalities
M. El Shawawy1, M. El Shawawy2. 1Sarasota Memorial Hospital, Sarasota, Florida; 2University of Sarasota, Sarasota, United States of America

Purpose: To examine whether pre-diabetes is a risk factor for cardiac and cardiovascular structural and functional abnormalities (abn.), i.e. small artery stiffness (C2) and abn, Carotid Intima Media Thickness (CIMT).

Methods: We screened 2363 asymptomatic subjects, age 20-80, for CVD risk using Early CVD Risk Score (ECVDRS). ECVDRS consists of 10 tests: C1 and C2, BP at rest and post mild exercise (PME), CIMT, abdominal aorta and left ventricle ultrasound, retinal photography, microalbuminuria, ECG, and pro-BNP. Euclycemia (EG), pre-diabetes (PD) and diabetes (DM) were defined according to the ADA criteria. Comorbidities (CM) were defined as elevated cholesterol, BP, waist circumference.

Results: Among the subjects screened, 73% (1642 of 2236) had EG, 27% (604 of 2236) had PD (p<0.0001) remained in the equation showing to be significantly and independently associated with T2DM emergence.

Conclusions: This study suggests that there is in our population a genetic polymorphism which may be associated with T2DM emergence.