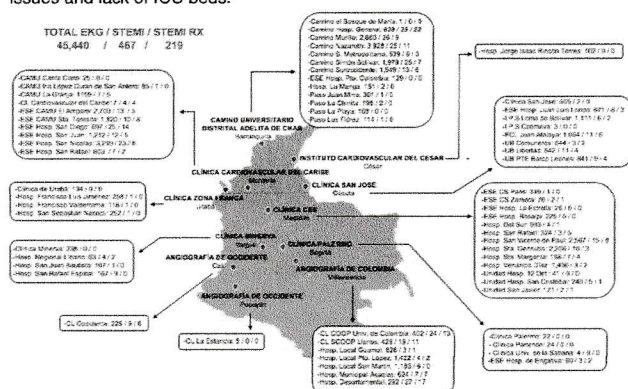


guidelines-based protocols for treating AMI. LATIN expands its network via its spokes that are located between 5–250 miles from the hubs and whose function is to urgently triage, stabilize and transfer patients to the hub. LATIN spokes include primary health centers and small clinics that previously lacked facilities to diagnose and treat AMI patients. Installed technology at each LATIN site includes an EKG device with multipoint transmission capabilities and patented telemedicine-integrated platforms. Each EKG is vectorized into a standard format for real-time interpretation by remote cardiologists who additionally guide the patient along the entire management pathway. In its pilot phase, LATIN incorporated a strategy to transmit EKG for all patients that presented with chest pain. Ambulance availability and training of paramedics has been reliably accomplished for all LATIN sites. 24/7 Primary PCI coverage is now available at all hubs, a robust database exists and ED bypass is being successfully accomplished with pre-hospital alert.

Results: Time to Telemedicine Diagnosis (TTD) of 5.8 minutes was achieved for interpreting 47,000 transmitted EKG with 98% accuracy; 467 STEMI were diagnosed for this cohort and 219 patients were successfully treated (215 PCI/Pharmaco Invasive, 4 Thrombolysis). Mortality data is being collected. Major reasons for non treatment include delayed presentation, insurance/payment issues and lack of ICU beds.



Conclusions: AMI care can be extended to millions of patients in developing countries with incorporation of cost-effective telemedicine platforms.

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Waist circumference and systolic blood pressure: predictors of left ventricular hypertrophy in healthy subjects

H. Sekiguchi¹, K. Shimamoto², M. Kawana², N. Hagiwara¹. ¹Tokyo Women's Medical University, Department of Cardiology, Tokyo, Japan; ²Tokyo Women's Medical University, General Medicine, Tokyo, Japan

Introduction: Obesity is a risk factor for cardiovascular disease (CVD). Diagnosing metabolic syndrome (Mets) on the basis of waist circumference (WC) is important for preventing CVD. On the other hand, blood pressure is associated with left ventricular mass (LVM), which independently predicts CVD.

Purpose: This study aimed to identify CVD and major organ dysfunction factors as predictors of LVM through thorough medical examinations in healthy subjects.

Methods: A total of 1056 participants without diabetes mellitus, systolic dysfunction, chronic kidney disease, or other heart diseases underwent a thorough physical examination including transthoracic echocardiography. LVM index (LVMI) ≥ 51 g/m^{2.7} was regarded as indicating left ventricular hypertrophy (LVH). We performed single and multiple logistic regression analyses of LVMI and six cardiovascular risk factors, including Mets factors and indicators of major organ dysfunction. Obese subjects (WC ≥ 85 cm in men, and ≥ 90 cm in women) and non-obese subjects were also separately analysed.

Results: In total, 1010 adults (Age 62.8 ± 12.8 years, male 621) were analysed in this study, and LVH was observed in 20.7% of the subjects (n=228, male 167/621). In obesity subjects (n=433); 33.0% (n=143) of the subjects showed LVH. LVH was correlated with age, systolic blood pressure (SBP), diastolic BP, estimated glomerular filtration rate, total bilirubin, fasting plasma glucose, HbA1c, and WC. Multiple logistic regression analysis indicated that aging, high SBP (≥ 130 mmHg), and abnormal WC were independent predictors of LVMI (odds ratio; 1.05, 1.99, 3.03, 95% confidential interval; 1.01–1.06, 1.42–2.79, 2.16–4.25, respectively, $P < 0.01$).

Moreover, the average LVMI was significantly higher in obese subjects, both men and women (47.7 ± 13.5 , 47.9 ± 14.1 g/m^{2.7}), than in non-obese subjects (41.1 ± 10.3 , 37.8 ± 10.1 g/m^{2.7}).

Conclusion: WC and SBP were independent risk factors for left ventricular hypertrophy in healthy individuals, and therefore might be useful for predicting CVD during routine physical check-ups.

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Prevalence of echocardiographic abnormalities in self-presenting members of a rural community in Kyrgyzstan

A.J. Barron¹, T. Aijigitov², A. Baltabaeva¹. ¹Harefield Hospital, Cardiology, London, United Kingdom; ²Batken District General Hospital, Cardiology, Batken, Kyrgyzstan

Background: Cardiovascular disease (CVD) accounts for 42% of male and 51% of female mortality within Europe. Kyrgyzstan, with a population of almost 6 million, has amongst the highest rates within Europe, second only to Uzbekistan for female CVD mortality (588 per 100,000). It is an agricultural country with an estimated 70% of the population living in rural areas with poor access to diagnostic facilities.

Purpose: We attempted to identify the prevalence of established CVD within a specific rural community in Kyrgyzstan using echocardiography.

Methods: Free open access echo (VIVID-I, GE, USA) was offered to all residents in Batken District. Routine echocardiographic views were obtained and analysis performed using EchoPac Clinical Workstation software (GE, USA). Only adults (>16 years) were analysed. Ejection fraction (EF) was calculated by Simpson's bi-plane method. Mild valvular regurgitation, mild left ventricular hypertrophy, PFOs and mild atrial enlargement were considered mild abnormalities; compensated congenital, ischaemic or valvular heart disease were considered moderate abnormalities, and decompensated congenital, ischaemic or valvular disease severe abnormalities.

Results: 125 adults (48 male, 77 female), mean age 53 ± 16 years, underwent echocardiography. Only 20 participants (16%) were found to have no significant abnormality. 58 participants (46%) had mild disease, 31 participants (25%) moderate, compensated disease and 16 participants (13%) had severe disease. 11 of these participants (9%) had congenital heart disease (6 ASDs/PFOs, 1 tetralogy of Fallot, 1 VSD, 2 congenitally abnormal aortic valves/roots, 1 Ebstein's anomaly). Average LV function was normal (median EF 63%, IQR 57–68%), however 19 participants had EF $<50\%$. 40% of participants were given a new diagnosis that warrants formal follow-up to prevent advanced disease. 12% had a new diagnosis of heart failure.

Conclusion: Using simple portable echocardiography we identify a higher than reported prevalence of CVD in rural Kyrgyzstan. Absence of portable tools and specialists for early diagnosis might lead to presentation in an advanced stage of disease when little can be done to alter mortality statistics.

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Alcohol consumption and presence of coronary artery disease

J. Karady, B. Szilveszter, Z.D. Drobni, M. Kolossvary, D. Danicska, G. Marosi, A. Bartykowszki, A.L. Jermendy, M. Karolyi, A. Panajoti, Z. Bagyura, B. Merkely, P. Maurovich-Horvat. Semmelweis University Heart Center, MTA-SE Lendulet Cardiovascular Imaging Research Group, Budapest, Hungary

Aims: Several observational studies suggested that light alcohol consumption decreases cardiovascular risk. However, the data regarding regular alcohol consumption and its association with coronary artery disease (CAD) still remain controversial.

Objectives: The aim of this prospective clinical study was to investigate the association between alcohol consumption and the presence of CAD as detected by coronary computed tomography angiography (CTA).

Methods and materials: Consecutive patients who were referred for coronary CTA due to suspected CAD were enrolled in our study. We excluded patients under the age of 18 years and patients with history of stroke, acute myocardial infarction or coronary revascularization. The weekly alcohol consumption was registered using a questionnaire. Alcohol units were calculated as follows: 1 unit equals 2 dl beer or 1 dl wine or 4 cl spirit. Based on the presence or absence of any plaque on coronary CTA we classified the patients into CAD and no CAD groups.

Results: In total, 1925 patients were enrolled (mean age 57.3 ± 16.1 years, females 43.1%). 61.3% participants had hypertension (HT), 13.7% had diabetes mellitus (DM), 40.7% had dyslipidemia (DLP) and 40.1% of the patients were current smokers. Atherosclerotic plaque was present in at least one coronary segment in 74.3% of the patients. Alcohol consumption was reported by 37.3% of the patients with a median of 6.7 (IQR: 3.3;10.8, range: 0.2–66.7) units weekly. Using univariate analysis to compare CAD positive patients and CAD negative patients we found significant difference regarding cardiovascular risk factors ($p < 0.001$) but no difference in alcohol consumption ($p = 0.35$). After adjusting for age, gender, HT, DM, DLP and smoking with logistic regression we found no association between alcohol consumption and the presence of CAD (OR: 1.00; CI: 0.98–1.02; $p = 0.76$). We performed a secondary analysis to assess the relationship between alcohol consumption and CAD among no drinkers and light drinkers (maximum 14 units per week; 82.7% of alcohol drinkers) and found no association (OR: 1.02; CI: 0.98–1.06; $p = 0.33$). Furthermore, we have analyzed the effect of different alcohol types (wine, beer, spirit) on the presence of CAD, but no relationship was found between any of the alcohol types and CAD (all $p > 0.05$).

Conclusion: Our study suggests that the amount of weekly alcohol consumption does not show association with the presence of CAD. We could not detect any association between alcohol consumption and CAD among light drinkers either. In addition, we did not find any association between the different alcohol types and the presence of coronary atherosclerosis.