



Exercise electrocardiogram in middle-aged and older leisure time sportsmen: 100 exercise tests would be enough to identify one silent myocardial ischemia at risk for cardiac event

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BACKGROUND: The importance of exercise electrocardiogram (ECG) has been controversial in the prevention of cardiac events among sportsmen. The aim of this study was to determine the frequency of silent myocardial ischemia (SMI) from an exercise ECG and its relationship with induced coronary angiographic assessment and potentially preventable cardiac events.

METHODS: This prospective cohort study included leisure time asymptomatic sportsmen over 35years old, referred from 2011 to 2014 in the Sports Medicine Unit of the University Hospital of Saint-Etienne.

RESULTS: Of the cohort of 1500 sportsmen (1205 men; mean age 50.7±9.4years; physical activity level 32.8±26.8MET-h/week), 951 (63%) had at least one cardiovascular disease (CVD) risk factor. Family history, medical examination and standard resting 12-lead were collected. A total of 163 exercise ECGs (10.9%) were defined as positive, most of them due to SMI (n=129, 8.6%). SMI was an indication for coronary angiography in 23 cases, leading to 17 documented SMIs (1.1%), including 11 significant stenoses requiring revascularization. In multivariate logistic regression analysis, a high risk of CVD (OR=2.65 [CI 95%: 1.33-5.27], p=0.005) and an age >50years (OR=2.71 [CI 95%: 1.65-4.44], p<0.0001) were independently associated with confirmed SMI.

CONCLUSIONS: The association of positive exercise ECG with significant coronary stenosis was stronger among sportsmen with CVD risk factors and older than 50years. Screening by exercise ECG can lower the risk of cardiac events in middle-aged and older sportsmen. One hundred tests would be enough to detect one silent myocardial ischemia at risk for cardiac event.

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