PRE-CLINICAL SCREENING FOR CORONARY ARTERY DISEASE IN ROUTINE PRACTICE.

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ABSTRACT

INTRODUCTION: According to international recommendations, the absolute risk estimate of a first coronary event in asymptomatic adults is based on the conventional risk factor's assessment introduced into a risk equation. **OBJECTIVE:** According to international recommendations, the absolute risk estimate of a first coronary event in asymptomatic adults is based on the conventional risk factor's assessment introduced into a risk equation. The cost of treating asymptomatic diseases, and the cost of secondary testing, may be too high to justify screening for large populations. We are developing a single view, Contrast Free Image (sci-fi) method that applies to all cases and is not restricted only to individuals in sinus rhythm**. STUDY DESIGN & METHOD:** It was an Observational Cross-Sectional study of predesigned proforma Inclusion Criteria HSE employees. St. Luke's hospital, Kilkenny & St. James's hospital, Dublin on separate days within 24 hrs. Total numbers were included 200. **RESULTS:** The total number of 200 subjects who fully completed the survey were included, compared to all the Yes or No, the percentage of the full 100 people were not significantly different, 5% were unwilling to screen, 7% were unable to cope with the news, 14% would not pay for drug treatment, 31% were unwilling to pay for non-invasive coronary angiography and 28% refuse to have an invasive coronary angiogram.**CONCLUSION:** It confirms that the bulk of the population who are interested in being screened, 1/3 is unwilling to pay for the cost of a 64 scan CT coronary angiogram & invasive coronary angiogram. The implications for normal individuals or the asymptomatic with risk factors need significant consideration globally, a small proportion admits to being likely incapable of coping with the news. The cardiac neurosis screening results require surveillance.

KEY WORDS: Pre-Clinical Screening, Coronary Artery Disease, CAD.

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INTRODUCTION

According to international recommendations, the absolute risk estimate of a first coronary event in asymptomatic adults is based on the conventional risk factor's assessment introduced into a risk equation[1,2] Calcification of the plaque-atherosclerosis occur through an dynamic method of mineralization with evidence of hydroxyapatite crystals and is not simple mineral precipitation[3]

EBT (Electron beam tomography) is highly reliable method for the identification and quantification of arterial calcification, & its understanding for discovery of atherosclerosis is near by 95%. The expenditure of management of asymptomatic disease, as well as that of resulting test, may make the whole expenditure too elevated to call for the showing of great segments of the inhabitants. The risk assessment based on the Framingham approach that combines multiple factors such as age, hypertension, hyperlipidemia, smoking, and diabetes mellitus provides reliable data on the median risk of coronary heart disease in a population with a defined risk profile[4, 5] However, it does not allow a obvious judgment of an individual's hazard. The value of in sequence concerning the occurrence of CAD coronary atherosclerosis such as coronary

calcium would, consequently, draw from the demonstration that it provides incremental value to risk prediction. [6]

The screening test would be used to identify those with atheroma in the population (and find potentially lethal disease), triage patients with chest pain, and triage the coronary angiogram waiting list. Both nationally & internationally CT calcium scoring and 64/128 scan, CT coronary angiography are techniques in vogue for the pre-clinical screening of coronary atheroma.[7]

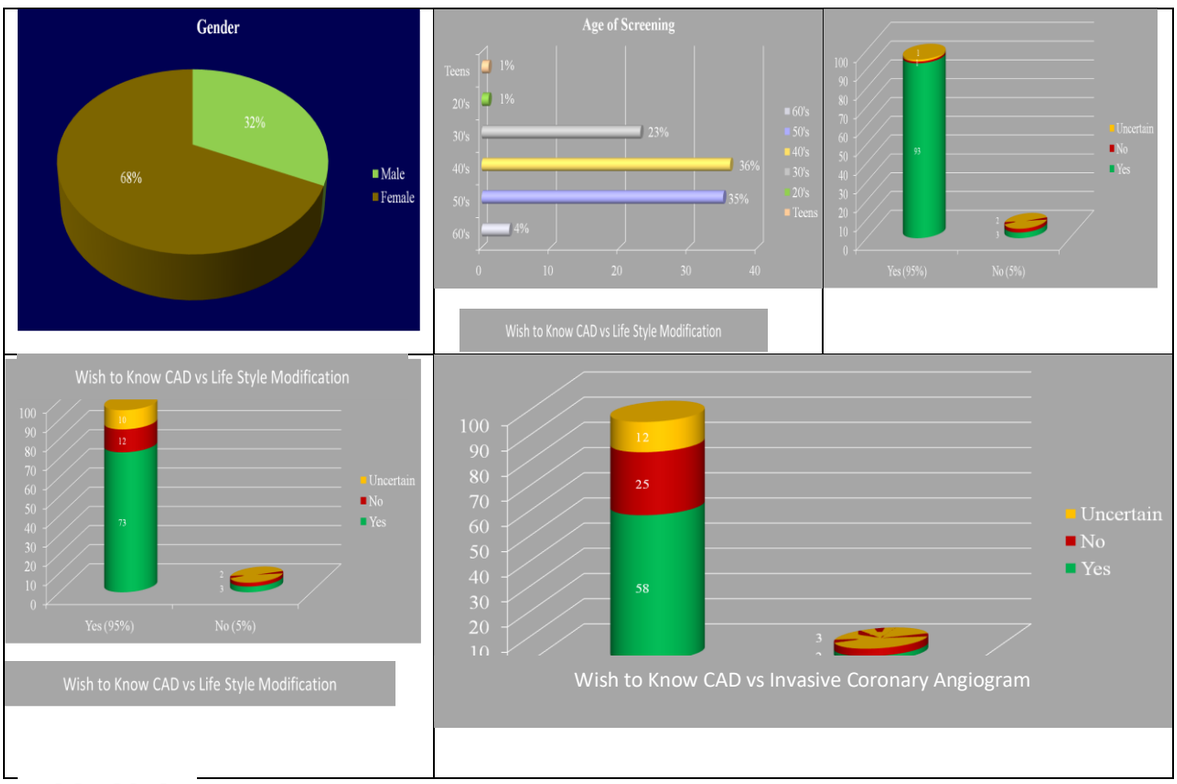
We are developing a single view, Contrast Free Image (sci-fi) method that applies to all cases and is not restricted only to individuals in sinus rhythm. SvCFI ----- a video CXR of a beating human heart.

MATERIALS AND METHODS

It was a prospective, cross-sectional observational study conducted at the Department of Cardiology, St. Luke's hospital, Kilkenny & St. James's hospital, Dublin from January 2020 to June 2021 on pre-designed CRF. A total of 200 subjects fulfilling the inclusion criteria and were included after informed consent. Inclusion Criteria was HSE employee, no prior ischemic heart disease or coronary angiogram. Those having greater than 2 risk factors were also included in the study. Smoking, positive family history of cardiac problems, hypertension, diabetes mellitus, dyslipidemia, hyperuricemia were considered as risk factors. Patients with a prior coronary angiogram, ischemic heart disease, critically ill patients, and malignancies were excluded. The study was compiled as per worldwide discussion on (ICH-GCP-E6), Harmonization Guideline for Good Clinical Practice before initiation, the moral code appraisal committee accepted the revision and knowledgeable permission was in use from every one selected participants.

RESULTS

A total of 200 patients who fully completed the survey were included, compared to all the Yes or No, the percentage of the full 100 people were not significantly different, 5% were unwilling to screen, 7% were unable to cope with the news, 14% would not pay for drug treatment, 31% were unwilling to pay for non-invasive coronary angiography and 28% refuse to have an invasive coronary angiogram. As shown below in graphs.



DISCUSSION

The main reason for test for CHD (coronary artery disease) is to recognize subjects whose prediction may be enhanced by every interference. Viewing for coronary artery disease (CHD) should be notable from hazard evaluation for coronary artery disease (CHD) or entire cardiovascular disease (CVD). By description, together are performed on asymptomatic persons & are intended to get better results through interventions as needed. Though, CHD (or CVD) test indicates an obtainable illness, & estimating the hazard of coronary artery disease (CAD) does not straight recognize

the accessible illness, however the expectations associated with coronary artery disease CAD. Identify the potential for an event in. Screening for progressive obstructive coronary artery disease (CAD) may be done with negligible or no physical symptoms, & symptoms can steps forward abruptly & quickly. The initial medical presentation of CHD, acute myocardial infarction (AMI), unstable angina (USA), or sudden cardiac death (SCD) are frequently connected with serious complications [7]. Early detection of CHD ensures that patients at high risk of cardiac adverse events can be identified by detection at the stage of asymptomatic disease, and appropriate treatments (such as lipid-lowering drugs) get better the prognosis of high-risk patients. You can do it [8]. Other Reasons Screening includes certain high-risk occupations (pilots,) in which acute cardiac events can endanger a large number of people or those who are perceived to be at high risk for CHD who have an exercise initiation program. Bus drivers, etc.) are included. Showing can recognize patients with CHD at elevated hazard, but presently small proof so as to such viewing improve results.

Assuming 75% of all of those alive over the age of 30 years, who don't have known disease will want screening that is the 2 million populations in Ireland. If sv CFI cost € 100, that is €200 million. Estimate the gain! Assume that all young sudden ischemic deaths are prevented….. ?(1000) propose each would have generated €1million from their work-life if they survived. The recent concern was not, particularly that few would want the test, but that they might not be able to cope with a positive result, particularly at a psychological level. The concern is that a lucky person becomes a nervous person in whom every twinge gets considered to be a cardiac pain.

Young age screening for CAD can prevent sudden ischemic death by introducing timely therapy. The limitations would be comparable to non-healthcare staff which might give a slightly different percentage. No study and data have been found regarding single view contrast-free imaging of the heart to access the calcium in coronary arteries and atheroma as a screening tool to prevent the reading cardiac death. And to get the preclinical assessment of their heart to accordingly modify Risk and to be further screened and evaluated to get medical treatment early

Current Western guidelines recommend calculating the pre-test probability (PTP) for patients with CHD to make diagnostic decisions. Examine all patients with possible angina and suspected obstructive CHD. [11]. IPD meta-analysis has not been investigated so far. Although it shows in which patients CTA has the best diagnostic performance, the results presented here can have a significant impact on current guidelines. From a clinical point of view, the diagnostic performance of CTA was not affected by the type of angina and was equally effective in excluding angiographic CHD in patients with different types of angina. Although the diagnostic performance of CTA is poor, decision makers should be aware that patients and women over the age of 75 have slightly less accurate CTA than men. As mentioned above, non-diagnostic tests are rarely seen on computed tomography with more than 64 detector lines. In the absence of non-diagnostic tests, CTA performance was similar for women and men. Several publications deal with this topic. Most of the studies published have shown that decreased level of calcium or lack of calcium in coronary vessels forecast a very low hazard of proceedings (< 0.5% annually). As a consequence, the lack of calcium in coronary vessels at screening EBT points is now recognized in the direction of have little risk of CVD (cardiovascular disease), in spite of of the occurrence of identified hazard factors[12]. Whether the occurrence of coronary calcium is an improved interpreter of proceedings than previous to hazard factors remain a passionately debated issue. Thirteen found that there was refusal incremental worth in coronary calcium screening in a group of 1196 elderly people who were likely to be pre-examined for coronary artery disease.[13]

A large study using coronary CT scans for calcium assessment for early screening, including results data for a extremely great cohort of subjects asymptomatic searched by EBT images, was newly published. I did. Condos etal.[14] reports a range of outcomes, including cardiovascular mortality and myocardial infarction, and flexible CV outcomes in 5,635 asymptomatic self introductions (74% male). The standard record time was 37 ± 12 months. In total, the investigators have registered 224 events. In men, the occurrence of all events was significantly connected with age $p<0.001$, occurrence of coronary artery calcium $p<0.001$, DM ($P = 0.008$), & cigrete smoking ($P = 0.025$). In females, on the other hand, the event is only associated with the occurrence of coronary calcium ($p= 0.037$). Male showed that the comparative hazard of myocardial infarction MI & death (RR) increased four-fold from the lowly

quartile to the uppermost quartile of the calcium scoring, rising the comparative hazard of yielding proceedings by numerous orders of magnitude. (RR increased from 4) up to 124). Despite the comparative hazard of soft events being nearly eight-fold higher in the highest quartiles and lowest calcium scores, women do not suffer from serious events that show similar tendencies to men for myocardial infarction and death. .. Very important for cardiovascular risk is the fact that serious vascular damage can occur prior to the detection and treatment of RFs [15] [16]. Vascular injury leading to cardiovascular accidents begins years before RF, such as hypertension and cholesterol, reaches the diagnostic threshold for high cholestrol & HTN, & years earlier than the initial medical occurrence. consequently, for disease prevention, RF must be addressed earlier than the time at which CVD occurrence peaks, and this attempt should be sustained indefinitely. [17, 18].

CONCLUSION

It confirms that the bulk of the population who are interested in being screened, 1/3 is unwilling to pay for the cost of a 64 scan CT coronary angiogram & invasive coronary angiogram. The implications for normal individuals or the asymptomatic with risk factors need significant consideration globally, a small proportion admits to being likely incapable of coping with the news. The cardiac neurosis screening results require surveillance.

CONFLICTS OF INTEREST: None.

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