Sir,

Essential tremors (ET) are a progressive neurological disease of posture and movement. Gross tremor involves various parts of the body, particularly the arms. An 86 years old gentleman with ET was referred to the cardiology outpatients with a history of chronic stable angina. His cardiovascular risk factors included a previous myocardial infarction, hypercholesterolemia and hypertension. His medications included beta-blockers, nitrates and statins. He had also been diagnosed with "essential tremors". On examination, he had marked essential tremors involving both the upper limbs. His heart rate was 76 beats per minute (regular) and blood pressure was 140/80.

His initial 12-lead ECG (Figure 1) showed possible diffuse "Flutter-type" waves with normal QRS complexes. Only lead I showed normal sinus rhythm.

The 12-lead ECG was repeated after reassuring and making the patient more comfortable (Figure 2). This ECG showed sinus bradycardia with normal QRS complexes along with minimal interference from the tremors.

Essential tremors get worse during voluntary movements such as eating and writing.1 Other recognized features including postural tremor of the outstretched arms, intentional as well as resting tremor in the arms.2,3

This case with senile ET had tremors during the ECG recording, which was repeated by diverting patient's attention. Flutter type waves on ECG can be seen in the rhythmic tremors, which can get worse in response to drugs, strong emotions, fatigue, or other factors.

The first 12-lead ECGs could easily be, wrongly labeled as atrial flutter with variable block. General reassurance and making the patients more comfortable reduced the tremors and, therefore, the fluctuating baseline of the ECG. Junior doctors should particularly be careful interpreting in the ECGs from patients with movement disorders and should be encouraged to seek seniors' review of ECGs.

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Nuclear Imaging For Screening Coronary Artery Disease in Diabetics

Sir,

We read the article by Aslam et al. published in JCPSP,1 2010 with great interest.

1. Authors have addressed a very important issue, the screening of diabetics for coronary artery disease. We would, however, like to point out certain limitations which
might hinder simple translation of authors’ findings to clinical practice.

Authors have included diabetic patients (n=60) with typical chest pain (and risk factors). Age matched control group (non-diabetic with typical chest pain and matching risk factors) was not included in the present published work. That simply means, considering the diabetic patients as target group, statistical parameters may not be confidently reliable. Furthermore, generalization of final conclusions might not be diabetics specific, rather for general population with typical chest pain and risk factors (since confounding factor analysis remained missing). Methodology is not elaborated properly and lots of ambiguities are there. Only non-gated data is presented (probably gating not done). Data analysis based on scoring (subjective evaluation) without database of local population certainly creates problems. Gating of the data, had it done, would have helped reducing false positive results (by correlation with wall motion), and false negative results (by correlation at least with volume measurements and transient dilatation). Lack of such analysis brought negative predictive value quite low. Similarly small hearts are notorious for low sensitivity of scintigraphy to detect coronary artery disease. This could also be suspected if volumes were calculated. Results could be refined by categorizing the scintigraphy results into low, intermediate and high categories.

2. Authors stated “breast attenuation defects were minimized” due to “high ratio of male subjects in the studied population” and that is the reason for higher values of sensitivity and other statistical parameters. We believe this was not the major factor of reported results. Low female ratio in the studied population has led to reduced inconclusive scans which occur in females due to high prevalence of small hearts, Syndrome-X and endothelial dysfunction. One least thing to point out in the article is a small typographical mistake, Thallium TI-201 emits 80 KeV and not KCV.

Although, from the data presented, it looks logical to draw inference that “Thallium scintigraphy is useful modality in the screening of coronary artery disease in diabetic patients”, magnitude of radiation exposure from Thallium scan is overlooked. There is not a single sentence in the whole article about the radiation exposure to patient. Overdoing in the field of nuclear imaging is never favorable in terms of risk benefits analysis. Radiation exposure to patients from nuclear cardiac scans with respect to chest X-ray (chest X-ray taken as 1) is shown in Figure 1.3

Use of radiation for medical imaging is the largest manmade source of radiation exposure and is the only category which can be reduced by adopting best practices. In one survey it is shown that less than 30% of qualified cardiologists are aware of magnitude of exposure from cardiac scans.4 Radiologists, most of the times, are least concerned about radiation exposure and oncogenic risk in many radiological examinations.5 Indiscriminate use of Thallium scan for screening will not improve the clinical outcome,6 and it will definitely increase burden on individuals and on society. Small individual costs, risk posed by exposure, wastes (which needs special disposal) multiplied by thousands of examinations done per year in a country like Pakistan should definitely be an important issue for public and government. In this scenario clinicians, cardiologists and nuclear physicians need to be more conservative and conscious to screen patients according to recommendation elaborated in international guidelines. Patients with high and low pre-test probability of coronary artery disease (based on risk factor analysis) actually does not need nuclear scan.7 Only those patients who are falling in intermediate category should go through nuclear scan. Nuclear scan referral should be justifiable and should not be driven just to shift part of the responsibility on someone else’s shoulders for the time being as a load shedding strategy. It posses health hazards, costs foreign exchange and above all it slows down the already slowed system of health care management by lengthening the waiting lists.

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Authors’ reply

Sir,

With reference to your letter no.6598/LET/2010 dated 29-1-2010. I am very thankful to my colleagues who read the article “Accuracy of Thallium scintigraphy versus coronary angiography for coronary artery disease in diabetics” and pointed out certain things.

First point was that age matched control group (non-diabetic) was not included in published work because we were comparing the accuracy of thallium scintigraphy versus coronary angiography. The object was not to compare the diabetics with high risk non-diabetics. Diabetic patients were our target group because they are at high risk for coronary artery disease. Final conclusion might not be diabetic specific as high risk non-diabetics may similarly have positive results as diabetics.

It was correctly pointed out that low female ratio in the study population led to reduced inconclusive scans. This occurs in females due to high prevalence of small hearts, Syndrome X, and endothelial dysfunction. I fully agree with the readers that use of radiation for medical imaging is the largest man-made source of radiation exposure and is the only category which can be reduced by adopting best practices and by using them according to international guidelines.

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REFERENCES


Pharmageddon on Obesity

Sir,

According to WHO, the number of obese patients will rise to 700 million in 2015 and the market of anti-obesity drugs is expected to rise globally to 2 billion US$ by 2010 which was around 600 million US$ in 2005 in USA, Europe and Japan. Until 1960s, obesity was considered a behavioural problem and was treated with psychotherapy and lifestyle modifications. In 1992 Fen-phen came in market. Its popularity ended in vain when in 1997 this drug was yanked from market due to its association with valvular heart disease and pulmonary hypertension. Since the failure of Fen-phen, obesity has become a graveyard of classic brands engulfing the popularity of big names of pharmacological industry. Sanofi Aventis stepped in by launching its cannabinoid receptor (CB1) antagonist but this agent too failed in receiving popularity after its association with mood changes and suicidal tendencies. Its failure led to the termination of phase 3 developmental trials of CP-945598, followed by Taranabant and then the phase 2 developmental trial of A2D 2207. It was estimated that failure of these CB1 medicines led to a loss of nearly $14.4 billion revenues between 2007 and 2012. Only sibutramine (central reuptake inhibitor of nor epinephrine and serotonin) and orlistat (inhibitor of intestinal lipase) are recently being used effectively as approved by FDA. Three agents which are said to get FDA approval soon are certain combinations of bupropion+naltrexone, phentermine+topiramate and 5HT 2c receptor agonist. On FDA approval, the companies are expected to release the drug in 2010 at estimated initial prescriptions of 10 million, with $ 1 billion revenue potential. Two other agents–Liraglutide and Cetilistat are in phase III trials. It is hoped that these new anti-obesity agents will provide desired benefits with minimum side effects but there is not even a single study which could infer that pharmacologically-induced weight loss can prolong life. It is yet to be established as to what would be the exact effects of these ‘pharmageddon’ on obesity except literally discovering the legendary El Dorado (the lost city of Gold).


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