EVALUATION OF NON-CARDIAC CHEST PAIN

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ABSTRACT

A series of five cases of non-cardiac chest pain is being reported. In all cases, a detailed cardiac work up excluded coronary artery disease (CAD). Upper gastro-intestinal endoscopy was found to be useful. Gastro esophageal reflux disease (GERD) was diagnosed in three cases. The diagnosis of esophageal disease was clinical in the other two. All patients responded well to further treatment and have been followed up for six months to two years.

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KEY WORDS : Non-cardiac chest pain; Angina like pain.

Introduction

Precordial pain is an alarming symptom. Due to the increased awareness about coronary artery disease (CAD) and the catastrophic nature of the same, any precordial pain or discomfort arouses the suspicion of anginal pain. However, it is well known that about 10-30 percent of patients admitted to coronary care units with acute chest pain are found to be free from CAD [1,2] and most such cases infact suffer from esophageal disease [3]. A positive diagnosis in such patients will go a long way in alleviating anxiety and morbidity associated with the diagnosis of CAD or with an uncertain diagnosis like non-cardiac chest pain. A series of five cases of non-cardiac chest pain is being presented to highlight the importance of oesophageal disease causing angina like symptoms.

Material and Methods

Five cases of non-cardiac chest pain formed the material of this study. These patients were subjected to a cardiac work up which consisted of metabolic parameters including lipid profile, ECG during pain, serial resting ECGs, treadmill test and cardiac

ECHO. Stress thallium studies were done in two patients and coronary angiography was done in 3 cases. All these patients were subjected to upper gastrointestinal (UGI) endoscopy. Barium swallow was done when indicated. Diagnosis and grading of esophagitis was based on the criteria advocated by Peters *et al* [4]. Endoscopic diagnosis of hiatus hernia was based on the guide lines mentioned by Boyce [5].

Results

The salient features of the 5 cases are given below :

Case 1

IA, a 38 years old serving officer reported with intermittent substernal pain since 2 months. Pain was crampy, usually on full stomach and sometimes precipitated by physical exercise. He was non-smoker and non-drinker. He gave history of similar symptoms 2 years ago. He was investigated for CAD and no abnormality was found. Physical examination did not reveal any abnormality. Cardiac work up including stress-thallium test was normal. UGI endoscopy revealed evidence of reflux esophagitis. He was treated with ranitidine and metoclopramide and showed good improvement. On 6 months follow up he has remained asymptomatic.

Case 2

RS, a 37 years old Air Force officer, reported for

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evaluation of recurrent chest pain since 2 years. He had retrosternal and precordial pain at times radiating to left arm. He complained of occasional palpitation and feeling of suffocation. He had been admitted 5 times in the last 2 years and investigated at 2 different cardiac centres. All investigation had been normal in the past.

Detailed physical examination was normal. Cardiac work up was found to be normal. UGI endoscopy revealed reflux esophagitis. Barium swallow study was normal. He was put on ranitidine. A 6 month follow up has been completed and patient has remained completely asymptomatic.

Case 3

NV, a 55 years old retired officer reported with complaint of sudden onset of pain in lower sub-sternal region at 2 a.m. It was crampy pain associated with palpitation and sweating. Patient took sips of water and it gradually subsided. There was history of eating heavy meal in a party, the previous night. He gave history of a similar episode following a dinner party about 2 months ago. He was non-smoker and social drinker.

Physical examination was non contributory. Cardiac work up including coronary angiography was normal. US abdomen was normal. UGI endoscopy revealed a 5 cm hiatus hernia. He was given a course of ranitidine and advised to take sublingual nifedipine if pain recurred. He has remained asymptomatic on a 2 year follow up.

Case 4

RJ, a 52 years old individual reported with substernal distress accompanied with palpitation and sweating during a period of mental stress. He was a non-smoker and non-alcoholic. Physical examination was normal. Cardiac work up including coronary angiography was normal. US abdomen and barium swallow was normal. UGI endoscopy was normal. A clinical diagnosis of GERD was made and he was given a course of ranitidine and cisapride. Patient has remained asymptomatic during a 6 months follow up.

Case 5

AS, a 31 year, old individual reported with typical chest pain, sweating and fainting. Physical examination was normal except mild obesity. Cardiac work up including coronary angiography and stress thallium test was normal. UGI endoscopy was normal. Esophageal biopsy revealed microscopic evidence of esophagitis. A clinical diagnosis of GERD was made and he was put on ranitidine and cisapride. The patient has remained asymptomatic on 6 months follow up.

Discussion

Ischaemic heart disease is undoubtedly a common cause of precordial pain. To simply rule out any cardiac cause for the pain is not sufficient to alleviate the anxiety of the patient, who continues to feel disabled seeking persistent medical attention [6]. Therefore it is important to make a positive diagnosis.

The diagnostic work up of a case of chest pain is invariably geared up to rule out CAD. This includes echocardiogram, treadmill test, radionuclide imaging, Holter monitoring and coronary angiography (CART). All these investigations are costly and CART is invasive. 30% of all CART studies are entirely normal or show only minor abnormality [7]. About two thirds of this later group (ranging between 17% to 100%) with normal coronaries are shown to be suffering from esophageal disease [8-11].

In our series of five cases with angina like pain and normal cardiac work up, we found endoscopic evidence of GERD in three. In the other two patients diagnosis of GERD was made on clinical grounds alone. All five patients responded well to treatment.

Almost any of the esophageal mucosal or muscular abnormalities can cause chest pain. But majority of the patients suffer from reflux esophagitis or esophageal motor abnormalities [10,13,14]. 20-50% patients of chest pain may have both CAD as well as esophageal disease [15-17]. Large number of tests have been described to diagnose esophageal disease. With the advent of 24 hours ambulatory pH and motility recording, this appears to be the best investigation besides esophagoscopy and barium swallow study.

These test should be done not only in cases where the tests for CAD are negative, but also in those cases where patient of CAD remains symptomatic despite adequate treatment for the same. Presently the facility for 24 hours ambulatory pH and motility charting is not readily available at the gastro-enterology centres. Under such circumstances empirical treatment with H2 receptor blocking agents, prokinetic drugs and calcium blocking agents may be justified in cases of chest pain when the cardiac tests are found to be negative.

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