

Chest Pain...? Not Always the Heart...!

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ABSTRACT

It has become problematic that the number of noncardiac chest pain (NCCP) patients is increasing among those who come to the emergency room with chest pain as a chief complaint. They tend to come to hospitals often and over many years, even after cardiac chest pain has been excluded from their diagnosis. Moreover, studies have shown that NCCP patients have a high prevalence of anxiety, depression, and disability. However, most NCCP patients are usually treated by cardiologists or primary physicians. Ordinary biomedical approaches often fail to treat NCCP. NCCP is one of the most important functional somatic syndromes from the view of medical economics. The cause of NCCP includes gastroesophageal reflux disease (most common), panic disorder, and esophageal dysmotility.

Keywords: Gastroesophageal reflux disease, Noncardiac chest pain, Numerical rating scale, Pain detect tool, Patient health questionnaire.

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INTRODUCTION

Noncardiac chest pain is a common and expensive condition. It affects approximately one-quarter of the population during their lifetime, but the long-term economic costs of noncardiac chest pain are poorly defined.¹ NCCP is defined by recurrent episodes of substernal chest pain in patients lacking a cardiac cause after a comprehensive evaluation. The magnitude of the problem is quite high because of fear of serious or life-threatening heart diseases. Patients with chest pain who present for the first time to an ambulatory care or to the emergency room, only 11–39% are ultimately diagnosed with coronary artery disease.² Gastroesophageal reflux disease is the most common cause for NCCP, followed by panic disorders, functional chest pain, and esophageal dysmotility.

CASE DESCRIPTION

A 36-year-old gentleman, teacher by occupation, presented with left-sided parasternal chest pain since 2 years which was insidious in onset, progressive, initially it was intermittent, and now he complains of continuous chest pain, severe intensity (NRS—10), pricking type of pain, well localized, nonradiating, nociceptive type of pain (PDT < 13). There were no aggravating or relieving factors. The patient did not have pain at any other site. There was no history of cough, breathlessness, and sweating. No history of trauma to the chest or any surgeries in the past. No history of increase in the chest pain on taking deep breath. The patient had no difficulties while sleeping. His sleep pattern was not disturbed. The PHQ9 score was 6.

The patient had consulted multiple doctors before coming to our clinic and had undergone multiple tests including electrocardiogram (ECG), tread mill test (TMT), echocardiogram, coronary angiography, chest X-ray, high resolution computer tomography (HRCT) of chest, ultrasonography (USG) abdomen, upper gastrointestinal (GI) endoscopy, 24 hours esophageal pH monitoring and manometry tests, magnetic resonance imaging (MRI) of the entire spine which were all normal, and nothing contributory. All blood investigations were normal. He had taken multiple medications which were all in vain.

General physical examination—the patient was anxious, conscious and oriented, moderately built, and nourished.

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His numerical rating scale (NRS) was 10 (at the moment) and it was the same throughout for the past few months. Vitals showed tachycardia. CVS, RS, CNS, and PA examinations were normal.

Local examination: the patient was locating the site of pain on the anterior chest wall left parasternal in the area of the T3, T4, and T5 dermatome levels around the area of the nipple. On inspection, there were no skin changes or scars or sinuses or chest deformities. Chest expansion was normal on both the sides.

On palpation, there was no local rise in temperature and tenderness. No bony deformities felt and chest expansion was normal. Percussion—normal resonant note heard on both sides. B/I normal vesicular breath sounds heard on auscultation. Upper back, cervical spine, and shoulder examination were all normal.

Based on these observations and ruling out red flags, our provisional diagnosis was functional chest pain/somatization. But, we still wanted to rule out if there were any pain generators from the chest wall. So before explaining about the central cause of pain, we informed him about the intercostal nerve block and to rule out any chest wall pain.

After obtaining a written informed consent from the patient and his attender, we proceeded with intercostal nerve block of T3, T4, and T5 under C-ARM guidance using 1% loxicard with 22 g Quinke Babcock's needle. Following the procedure, the patient was observed for any complications in the recovery room.

After the intercostal nerve block, the patient was questioned about the pain relief. The patient complained about the numbness in the T3, T4, and T5 dermatomes with pain reduction of about

25–30%. His NRS was 8. He was observed till the numbness resolved and a diagnosis of functional chest pain/somatization was made.

The patient was counselled about his condition and was prescribed an antidepressant and benzodiazepine for 2 months and review after that. A psychiatrist opinion was also sought at the same time.

DISCUSSION

Functional heart symptoms, especially chest pain, are very widespread and according to the International Classification of Diseases (ICD-10), it is described as “somatoform autonomous functional disorders of the cardiovascular system.” Although they are very often accompanied by considerable anxiety about having a heart attack, they are initially not recognizable as such and have to be distinguished from somatic complaints. The most prevalent of these symptoms are chest pain, followed by feeling of weakness, tendency to become easily fatigued, and breathing difficulties. The perception of changes in cardiac activity, such as tachycardia, palpitations, irregular heartbeat, or arrhythmias, is also extremely unsettling and, thus, anxiety-provoking. Therefore, although a responsible cardiac diagnosis is the basis for every further step taken, it is advisable to carry out a brief anamnesis immediately, if possible, to determine the prior history. For example, previously conducted clarification of somatic causes, consultations with more than one physician in parallel, or repeated medical emergency calls can be helpful for orientation. Moreover, in the interview during the diagnostic measures, the possibility of functional causes should always be pointed out to counteract a somatic fixation early on. The health-care policy role that lies in early diagnosis of functional cardiac complaints has to be regarded as highly relevant. Since, in addition to anxiety disorders, depressive states also accompany functional heart complaints, and, hence, the patient needs to

be evaluated for depression by using various scales used for diagnosing depression.

In summary, the following recommendations can be formulated for day-to-day clinical practice:

- From the very beginning, a holistic approach should be conveyed in the interview by addressing psychological and social aspects as well, and taking them into account as possible causes.
- The somatic diagnosis should, if possible, not go beyond that which is urgently necessary from a cardiological standpoint and presented in guidelines. One should, above all, not give in to pressure from the patients if it is a matter of repeated examinations within a short period of time.
- A relationship based on trust between doctor and patient enhances the chances for a successful transfer to psychosomatic examination and treatment.

CONCLUSION

The costs of noncardiac chest pain to the healthcare system are likely to be large. The diagnosis of noncardiac chest pain can be difficult due to the heterogeneous nature of the condition, with a significant overlap of gastroesophageal reflux disease, chest wall syndromes, and psychiatric disease, which may drive up the costs of management. Further studies are required to determine methods of reducing health care costs.¹

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