OPINION

Eliminate non-cardiac chest pain

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Eliminate non-cardiac chest pain. Or rather, eliminate the expression. Cumulative irritation over several years leads me to comment on the readiness of doctors to use this, and 'atypical chest pain', as a diagnosis, and even carry out trials to assess treatment. To study a condition defined by what it is not seems weird; perhaps some people also describe non-brain head pain or atypical abdominal pain?

Findings on examination

I looked at 75 consecutive referrals to a chest pain clinic; I noted the following distinguishing features.

For angina:

1. Predictable on exertion.
2. Goes with rest.
3. Rarely at rest.
4. Same as previous proved ischaemic discomfort.

Mechanical:

1. Effected by movement or inspiration.
2. Reproduced by movement, pressure or percussion on examination.
3. Can last hours or days.
4. Located to a specific structure or nerve root distribution.
5. Could be severe and prolonged with normal electrocardiogram (ECG)/troponin.

The most important finding on examination was reproduction of the symptoms by using passive movements of the cervical or thoracic spine. Movements used were thoracic rotation in both directions, in flexion and extension, and cervical flexion, extension, rotation and lateral flexion. In many of the patients dubbed mechanical, referred pain along an intercostal nerve or in a cervical nerve root distribution could be reproduced and confirmed as the presenting symptom. These movements could also cause pallor, sweating and dyspnoea.

All patients underwent either an exercise test, achieving at least a rate pressure product of 200 x 100, or a myocardial perfusion imaging study, or both.

The results were that 44 patients had clinically mechanical chest pain referred from cervical or thoracic spine or, in a few, clearly referred from a costo-chondral or chondro-sternal joint, and two of these patients had positive stress tests; 26 of the patients clinically had angina and five of them had negative exercise tests and went on to myocardial perfusion imaging. Five patients clinically had oesophageal symptoms as suggested by exacerbation on lying flat, the presence of acid reflux and improvement with antacids or proton-pump inhibitors (PPIs).

Examination of the spine

The crucial thing seems to be proper examination of the spine. I asked 25 consecutive doctors in training how they would demonstrate that chest pain was coming from the spine, and not one of them knew about passive spinal movements. None of the patients referred to the chest pain clinic had had their spines examined. The findings are very similar to a study I did in the same context about 12 years ago. I cannot believe that the pathology in different parts of the country varies that much from West Yorkshire. But in virtually none of the articles on 'non-cardiac chest pain' does musculoskeletal examination merit more than a passing reference. The following comments from various articles are of interest, I think:

- "Non-cardiac chest pain is also classed as a functional gastrointestinal disorder" (a report of hypnosis as treatment).[1]
- "They also continue to seek medical advice and it has been shown that they consult even more than individuals with demonstrable coronary artery disease."[1]
- "Patients frequently comment on a need for explanation for their symptoms in addition to reassurance that they do not have heart disease."[2] Hardly surprising if people are told what they haven't got rather than what they have. Patients do not know that they haven't got a serious disease just because cardiologists reassure them that their heart tests are normal. This study led to a recommendation for intensive individual psychological treatment for those with enduring psychological problems.
- "Patients discharged with non-cardiac chest pain do not seem to have excess mortality risk; yet they make up a substantial part of re-admissions."[3] After attending the clinic, levels of anxiety were

significantly higher among those with non-cardiac chest pain. Again they had no positive diagnosis.

- "Musculoskeletal disease... this diagnostic category swelled during follow-up mainly as a result of clinical assessment. A search for areas of anterior chest wall tenderness, pressure over which reproduces symptoms, was particularly helpful. Additionally, examination of the cervical and thoracic spine yielded positive findings." At last! From a rheumatology department.[4]
- "In our experience patients with chest pain require a cause or explanation for their symptoms." We all agree. This was an article looking at oesophageal function.[5]

I wonder how many of the patients described with non-cardiac chest pain and who "have a high prevalence of anxiety, depression, re-admission and unemployment" would acquire a diagnosis by a more detailed history and by examination of their spine. (The same also applies to undiagnosed headache and abdominal pain, but that's a different story.) I appreciate that with grossly overloaded emergency departments and admissions units, the first thing is often a knee-jerk exclusion of myocardial infarction. But what is said to the patient on an initial visit with a new symptom is very important, and to be sent home 'reassured' without a diagnosis, but often with a nitroglycerin spray and aspirin, can initiate a long sequel of anxiety, which can be hard to unravel

Conflict of interest

None declared.

Key messages

- The terms 'non-cardiac chest pain' or 'atypical chest pain' should not be used as a diagnosis
- Sending patients home without a proper diagnosis can cause long-term anxiety
- In many cases a detailed history and musculoskeletal examination would lead to diagnosis

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