

The Masked Heart Attack in a 72-Year-Old Man with Chronic Neck Pain

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Abstract

Neck pain has a high lifetime prevalence and often progresses chronically. We report on an elderly man in whom a subtle change in the quality of his chronic complaints was indicative of an acute myocardial ischemia. The atypical presentation should prompt the clinician to consider this potentially life-threatening differential diagnosis.

Keywords: Neck Pain; Ischemic Heart Attack; Myocardial Ischemia; Neck Pain in Myocardial Ischemia

Introduction

Neck pain is one of the most common reasons for medical consultations. Almost everyone will experience neck pain at some point in their lives, and it is rarely threatening. "Red flags" can be used to assess the condition. However, with increasing age, the factors for complicated neck pain also rise. In addition to inflammatory, malignant, degenerative, or traumatic causes, myocardial ischemia can manifest as neck pain. Its differential diagnosis poses challenges for the treating physician, especially when symptoms occur in men or can be masked by medication. We report on a 72-year-old man with chronic neck pain, in whom a change in his symptoms, accompanied by additional atypical symptoms, led to the diagnosis of myocardial ischemia.

The Case

In the early evening hours, a 72-year-old man presented to the emergency room. He had been experiencing exertion- and movement-related neck pain for the past 2 days, radiating from the neck to both trapezii and into the jaw. Similar complaints had been treated by his orthopaedic surgeon for the last 6 years. He had been advised that there are "findings" in the cervical spine that cannot be operated on. Neurological symptoms were denied. Occasionally, he felt a movement-related parasternal stabbing pain.

Apart from a known hypertension, no other underlying or comorbid conditions were reported. He denied alcohol use but had been smoking 16 cigarettes per day for 40 years.

On examination, a subjectively well-maintained 72-year-old slender patient in good general condition was observed. The skin was rosy and warm. Although the patient freely moved his head during the interview, movements were actively restricted during examination. The range of motion was reduced to 10° in all directions. No muscular trigger points or paravertebral tightness were found. Neurologically, the extremities could be moved against resistance, with no sensory deficits.

A plain X-ray of the cervical spine was requested, along with an ECG and laboratory tests.



Figure 1

Radiologically, degenerative changes with a narrowing of the intervertebral disc spaces at the level of C5/C6 and following were observed. Additionally, an ECG was performed, revealing changes indicative of an old posterior wall infarction with Q-waves in II, III, and aVF, along with ST-segment elevations.

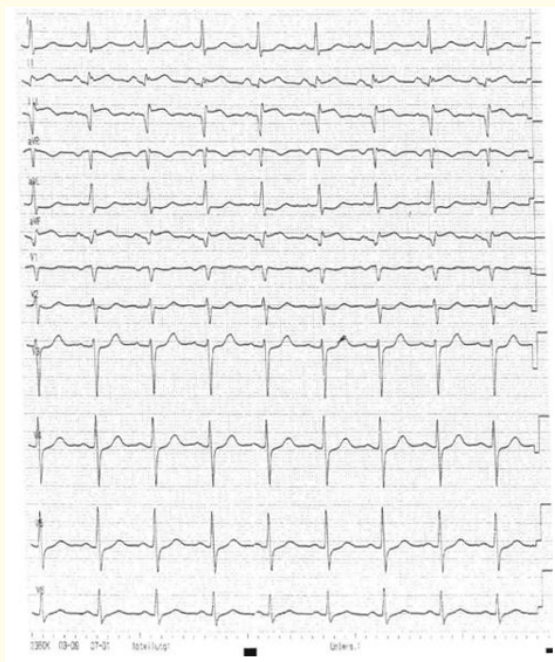


Figure 2

In contrast, the laboratory results showed an elevation of troponin to 0.59 ng/ml (normal 0.014 ng/ml). The internal medicine/ cardiology consultation raised suspicion of an acute-on-chronic ischemia, leading to a coronary angiography. This revealed a subtotal stenosis of the proximal left anterior descending artery (LAD), the right coronary artery (RCA), and the proximal circumflex artery. The stenoses were dilated and bridged with a stent. After the intervention, the patient reported improvement with residual symptoms.

Discussion

In orthopedic practice, spinal disorders are the most common complaints. This includes not only lumbar pain but also neck and shoulder complaints. The lifetime prevalence is estimated at 86% [1]. The course of symptoms can be acute, acute-on-chronic, or chronic. Causes of acute neck pain include acute torticollis, traumatic torticollis, disc- ligament injuries, disc herniations, vertebral artery dissection, or inflammatory causes. Chronic courses predominantly involve degenerative changes in the cervical spine, such as spondylarthroses, facet degenerations, and arthropathies, but also systemic diseases like ankylosing spondylitis, Ehlers-Danlos, etc. or metastatic involvement.

Signals of a complicated course undoubtedly include neurological deficits, altered consciousness with trauma, or a history of malignancy, osteoporosis, and long-term use of glucocorticoids [2]. Atypical symptoms, however, can also include neck pain in the context of myocardial ischemia. Chest pain is considered the cardinal symptom of myocardial ischemia, affecting both genders equally. The proportion of patients presenting with the key symptom of “chest pain” in an internal medicine emergency department is approximately 5% [3]. In addition to known risk factors, the initial occurrence is in men between the ages of 50 and 60 and in women from the age of 60. However, besides the classic chest pain, there are also atypical symptoms with relevant gender-specific differences. These can either manifest as prodromes or acute symptoms. Neck pain is among the less typical prodromes or symptoms of acute myocardial ischemia. In women, however, it is considered one of the essential prodromes in the 90 days before an ischemic event [4]. This includes radiating complaints in the jaw, throat, shoulder, and left scapula [5,6]. In contrast, men rarely experience neck pain [7-10]. Men also complain less about back pain, jaw discomfort, left-sided arm pain, or nausea, but more about complaints in the right upper chest, sternum, and left side of the sternum. Joseph [11] did not find gender- specific differences in the location of complaints in his study. However, the authors described more autonomic accompanying symptoms such as nausea, dizziness, vomiting, as well as dyspnea and intrascapular complaints. A gender-specific difference was only described in the character of pain.

For patients presenting with chest pain, clinical algorithms exist to classify them into low- and high-risk groups. Criteria for increased risk include age, gender (men older than 55, women over 65), and the nature of complaints [12] from typical to atypical symptoms. The Marburg Heart Score, on the other hand, includes not only age and gender but also the medical history and stress component and is considered more accurate [13,14]. The Interchest Score, in addition to the Marburg Heart Score, includes the reproducibility of pain through palpation and clinical suspicion [15,16]. All scores share the ability to derive recommendations for the necessity and type of further examination based on their profiles. However, risk factors other than age and gender are not considered in the scoring, nor are atypical symptoms. There is no graduated recommendation for neck pain as a monosymptom.

In our patient, there was a long history of neck pain. However, the reason for the renewed presentation was a change in its quality. For the treating physician, it is essential to note that symptoms can change in nature and intensity under pain medication. This can lead to misinterpretation, especially when they are in the same anatomical area. The presentation of our male patient with pain radiating to the jaw, along with existing neck pain, did not meet the criteria for any of the above-mentioned scores. The symptoms were atypical for a man. Despite the gender atypical signs, the age, gender, and risk factor prompted consideration of the differential diagnosis of ischemia. The intermittent left-sided parasternal complaints, described as movement-related, could also have suggested a mechanical cause such as costochondritis.

The primary ECG showed changes with ST elevations over the posterior wall. Upon specific inquiry, the patient remembered having an episode of chest pain 11 years ago, which was not investigated. This aligns with the findings on the ECG.

Fresh ECG changes are found in STEMI patients, whereas in NSTEMI patients, changes are present in only 50% [17]. Therefore, troponin T determination was performed concurrently. Its determination shows high sensitivity in detecting ischemia [18] and is repeated if absent after 6 hours. Troponin T is detectable even in smaller ischemic areas (so-called microinfarcts) and in patients with unstable angina pectoris without infarction signs or CK elevation. It becomes positive after 3 to 4 hours and can remain elevated for up to 14 days (Larsen 2016). In the coronary angiography, relevant stenoses in the coronary arteries were then revealed, whose occlusion was in line with ischemic parameters. Their treatment led to an improvement in subjective symptoms, most likely the ischemia-related symptoms.

Conclusion

Chronic courses of neck pain pose special challenges for the treating physician. Although they have a high lifetime prevalence, the clinician should be mindful that, as a solitary symptom, they can also manifest as acute myocardial ischemia. While gender-specific differences are found in some studies, these cannot be reliably confirmed. Therefore, in cases of neck pain, especially in the elderly and those with known risk factors, the possibility of myocardial ischemia should be considered and clarified using ECG and troponin T.

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