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Presentation of Coronary Artery Disease in a Chiropractic Clinic: A Report of 2 Cases

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Abstract

Objective: The purpose of this report is to describe 2 patients with coronary artery disease presenting with musculoskeletal symptoms to a chiropractic clinic.

Clinical Features: A 48-year-old male new patient had thoracic spine pain aggravated by physical exertion. A 61-year-old man under routine care for low back pain experienced a secondary complaint of acute chest pain during a reevaluation.

Intervention and Outcome: In both cases, the patients were strongly encouraged to consult their medical physician and were subsequently diagnosed with coronary artery disease. Following their diagnoses, each patient underwent surgical angioplasty procedures with stenting.

Conclusion: Patients may present for chiropractic care with what appears to be musculoskeletal chest pain when the pain may be generating from coronary artery disease necessitating medical and possibly emergency care.

Introduction

Chest pain is a common complaint in all health care settings.[1] Chest pain has a lifetime prevalence of 20%-40% in the general population, and in the primary care setting, it accounts for 1%-2% of all patient visits.[2] Chest pain raises concerns about the occurrences of serious conditions such as coronary heart disease. Coronary heart disease is present in approximately 12% of primary care patients with chest pain.[2,3] In spite of this, the clinical recognition of coronary artery disease among patients who report chest pain remains difficult in this environement.[4] Acute chest pain accounts for 5%-6% of all admissions to emergency departments in both Europe and the United States,[5,6] and acute coronary syndrome accounts for 20%-25% of these cases. Another 50% of acute chest pain admissions are for non–cardiac-related reasons[7]; and in acute chest pain clinics, musculoskeletal chest pain accounts for between 5% and 20% of total visits.[8–10]

Chest pain of a serious cardiovascular concern, for example, myocardial infarction and acute coronary syndrome, is seen less often in the primary care setting than in the emergency care setting.[11]

Chest pain presentations in chiropractic clinics may be of a musculoskeletal origin.

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The natural history and degree of symptom turnover in musculoskeletal chest pain are however poorly understood.[12] Symptoms of musculoskeletal chest pain may present in cardiovascular and other chest pain pathologies. For example, Robson et al[4] found that 10% of all patients with coronary artery disease symptoms presented with at least 1 musculoskeletal complaint. Chiropractic physicians should carefully assess and monitor patients who present with acute musculoskeletal chest complaints until nonmusculoskeletal and cardiac-related causes are excluded.

Patients with thoracic spine pain complaints may also have underlying cardiac pathology. Thoracic spine pain is a common musculoskeletal presentation in both clinical practice and the general population, with the 7-day and 1-year prevalence periods of thoracic spine being reported as 25.8% and 22.6% respectively.[13] Thoracic spine pain may arise from a number of sources including the thoracic and cervical spine; the thorax; and gastrointestinal, cardiopulmonary, and renal systems.[14,15] It is clinically important for the chiropractic physician to be aware of these potential differential diagnoses when proceeding with patient care. The purpose of this report is to describe the presentation of 2 patients who initially presented with musculoskeletal chest pain but who had coronary artery disease.

Case Report

Case 1

An active 48-year-old healthy man presented with exercise-induced back pain. He reported no history of tobacco use. He had previous success with chiropractic for spine-related conditions. In this episode of pain, he was having brief attacks of sharp mid-to-lower thoracic spine and rib pain that was brought on by 10 to 15 minutes of vigorous cardiovascular exercise. During an attack, the intensity of the pain would force him to stop and rest.

Clinical assessment revealed an unremarkable neurological screen which consisted of testing deep tendon reflexes, dermatomes, myotomes, long tract signs, and balance. However, active and passive left lateral thoracic spine flexion provoked the patient's unspecific thorax pain. Other ranges of motion and provocation tests were unremarkable. Prone thoracic spine palpation and applied posterior-to-anterior pressure challenges produced generalized segmental and musculoskeletal pain at the patient's T2-3 and T6-T10 vertebral segments. Muscle soreness was palpated in the left inferiolateral latissimus dorsi muscle fibers and bilaterally along the paraspinals at the T7-T10 spinal levels. Manual palpation of the patient's anterior chest wall did not reproduce any pain. Based on these findings, an initial clinical impression of mechanical thoracic spine pain was communicated to the patient, and a manual therapy plan of management was initiated. In addition to mechanical thoracic spine pain, other differential diagnoses considered were (*a*) referred gallbladder and/or liver pathology, (*b*) heart or lung pathology, and (*c*) costochondritis.

After 4 treatment sessions over 2 weeks focusing on thoracic spine manipulation/mobilization and soft tissue therapy, the patient experienced mild subjective improvements. At the fourth visit to the chiropractic office, the patient reported that he had another attack of midback pain during vigorous cardiovascular exercise requiring him to stop and rest. At this point, the chiropractic physician encouraged the patient to consult with his medial physician for further investigation and cardiac assessment. The patient did not follow through on this recommendation and continued with his normal active lifestyle. On the fifth visit (at 2½ weeks), the patient's midback symptoms and palpatory findings had improved overall; nevertheless, he was anxious about the possibility of underlying heart disease. His blood pressure was taken in the chiropractic office and measured as elevated at 145/95. His radial pulse was strong and rapid, whereas cardiac auscultation was normal. On the advice of his chiropractor, he immediately made an appointment with his physician.

One week later the patient, returned to the chiropractic clinic and reported having had blood work taken and that an echocardiogram was scheduled to be taken. The echocardiogram demonstrated that the patient had partial coronary arterial occlusions. One month later, he underwent surgical angioplasty, and 2 stents were implanted to relieve a 95% occluded interventricular branch and a 75% occluded left descending coronary artery. Once the patient was stable, he began an outpatient cardiac rehabilitation program, and 3 months later, he reported to the chiropractor complete resolution of his chest pain.

Case 2

A 61-year-old man presented to the chiropractic office for a follow-up visit for low back pain treatment. The patient reported a new secondary complaint of acute pain in his central chest located below his sternum and xiphoid process. The patient's health