Surgical Neurology International

SNI: Spine, a supplement to Surgical Neurology International

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Medicolegal corner: Quadriplegia following chiropractic manipulation

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Received: 18 April 13 Accepted: 23 April 13 Published: 28 May 13

This article may be cited as:
Epstein NE, Forte Esq CL. Medicolegal corner: Quadriplegia following chiropractic manipulation. Surg Neurol Int 2013;4:S327-9.
Available FREE in open access from: http://www.surgicalneurologyint.com/text.asp?2013/4/6/327/112620

Abstract

A 45-year-old male with multiple comorbidities presented to his internist with a 2 week history of right-sided neck pain and tenderness, accompanied by tingling in the hand. The internists' neurological examination was normal, except for decreased range of motion of the right arm. He referred the patient to a chiropractor; he performed plain X-rays which revealed mild spasm, but never ordered a magnetic resonance imaging study. The chiropractor manipulated the patient's neck on two successive days. By the morning of the third visit, the patient reported extreme pain and difficulty walking. Without performing a new neurological examination or obtaining an MR scan, the chiropractor again manipulated the patient's neck. He immediately became quadriplegic. Despite undergoing an emergency C5-C6 anterior cervical diskectomy/fusion to address a massive disc found on the MR scan (CT was negative), the patient remained quadriplegic (e.g., C4 sensory, C6 motor levels). A major point of negligence in this case was the failure of both the referring internist and chiropractor to order an MR of the cervical spine prior to the chiropractic manipulation. The internist claimed that there was no known report of permanent quadriplegia resulting from neck manipulation in any medical journal, article or book, or in any literature of any kind or on the internet and that the risk of this injury must be vanishingly small given the large numbers of manipulations performed annually. The total amount of the verdict was $14,596,000.00 the internist's liability was 5% ($759,181.65).

Key Words: Cervical manipulation, cervical disc, chiropractic treatment, quadriplegia

Access this article online

Website: www.surgicalneurologyint.com

DOI: 10.4103/2152-7806.112620

Quick Response Code:

INTRODUCTION

In 2004, a 41-year-old male patient was seen by his internist with complaints of left shoulder/upper back pain, and decreased range of motion (ROM). At that time, he was referred to the chiropractor who performed spinal manipulation; the patient's symptoms resolved. His pain was attributed to an injury while performing yard work, pulling tree stumps out of the ground. Neither the internist nor the chiropractor performed imaging studies.

In 2008, now a 45-year-old, hypertensive, diabetic (Type I) with a history of diabetic retinopathy, depression/anxiety disorder (insomnia, panic attacks), leg ulcers, weight

gain/obesity, cellulitis, and high cholesterol, presented to his internist with a 2 week history of right-sided neck pain and tenderness, accompanied by tingling in the right biceps down to the fingers when the shoulder was depressed. The internist's examination was said to be normal, but with decreased ROM. The patient was referred to the same chiropractor within the internist' group on 6/17/2008. The chiropractor found pain and right-sided tenderness with interscapular discomfort, but no neurological deficit other than mild right biceps weakness. Lateral X-rays demonstrated a straightened lordosis, but no magnetic resonance imaging (MRI) was performed.

On 6/17, the chiropractor performed initial cervical manipulations which included flexion/distraction maneuvers. He claimed he performed only mild manipulation and joint mobilization involving the C2-C5, T12, and L4 levels.

On 6/18, the patient underwent a second series of similar cervical manipulations. However, following spinal manipulations on the second day, the patient experienced worsening of his neck and arm pain, which were now described as severe. The pain was so bad that night that the patient had to sleep sitting up. By the monring of 6/19/2008, he needed a friend to drive him to his third appointment due to his inability to turn his head.

He reported to the chiropractor that he felt substantially worse, and that the pain in his neck had markedly exacerbated. The chiropractor told him he would "take it easy" on him, and performed no new neurological examination before proceeding with additional flexion/distraction maneuvers. Immediately following the manipulations, the patient reported an acute stabbing pain across the back and shoulder, was unable to stand, and lost feeling and function/strength in the arms and legs; he was quadriplegic.

At first, when the patient noted he could not move, the chiropractor attributed this to a low blood sugar level, and/or dehydration, and failed to call the emergency medical service team (EMT) in a timely fashion. When the patient's wife arrived, and EMT was finally called, the patient was taken to the nearest emergency room (ER). The computed tomographic (CT) scan that was performed failed to show a C5-C6 disc, but simply revealed small osteophytes anteriorly at both the C5-C6 and C6-C7 levels.

Howver, when the patient was transferred a to tertiary care center, the MRI study documented congenital narrowing of the cervical canal (13 mm at the C56 level), a massive C5-C6 disc extrusion accompanied by marked cord compression, and an increased signal in the cord.

Preoperatively, the patient was quadriplegic: he had no sensation in the distal upper and both lower extremities, plus a loss of sphincter tone. The patient underwent an emergency anterior cervical diskectomy/fusion (ADF) at the C5-C6 level. The 6/24/2008 MR documented a markedly hyperintense signal within the cord accompanied by swelling spanning the C3-C4 through the C6-C7 levels. Five years later, the patient remains quadriplegic (e.g., permanent bilateral C4 sensory and C6 motor deficits).

MEDICOLEGAL ISSUES RAISED

Failure to obtain a cervical MR scan prior to chiropractic manipulation

A major point of contention of negligence in this case surrounded the failure on the part of both the referring internist and chiropractor to order an MR of the cervical spine prior to the chiropractic manipulation. In this case, it was argued that had such an MR been performed particularly after the second day of chiropractic treatment when the patient was substantially worse, the findings would have prevented the subsequent manipulation, and would have averted the quadriplegia.

ISSUES FOR THE JURY

The jury was asked to determine the relative responsibility of both the internist and the chiropractor for the injuries sustained during the chiropractic manipulation. The internist, a partner in the same medical group, typically referred patients to the chiropractor; and a substantial percentage of the chiropractor's patients came from the primary care physicians within the group. It was argued that the internist knew that the chiropractor was going to manipulate the patient's neck particularly since he had manipulated the patients neck during the treatment given in 2004, and therefore had a responsibility to request an MR scan or to request the chiropractor order the study in order to define the underlying pathology prior to chiropractic treatment. The patient also argued that he was not given the option to see any other specialist, such as an orthopedist or neurologist. He was simply handed a prescription for the chiropractor. All experts in the case on both sides agreed that the patient probably had a bulging disc prior to the first manipulation that was acutely herniated as a result of the chiropractic treatment. Further, the patient testified that had he been aware that he had a bulging disc and not just a simple sprain as the internist concluded, that he would never have accepted neck manipulation. The internist testified that even if he had known that the patient had a bulging or herniated cervical disc, he still would have recommended chiropractic manipulation of

the neck. The internist claimed that there was no known report of permanent quadriplegia resulting from neck manipulation in any medical journal, article or book, or in any literature of any kind or on the internet and that the risk of this injury must be vanishingly small given the large numbers of manipulations performed annually. The total amount of the verdict was $14,596,000.00 the internist's liability was 5% ($759,181.65).