Myofascial Pain from Pectoralis Major Following Trans-Axillary Surgery

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Summary

This is the first reported description, to the author's knowledge, of myofascial pain occurring at a surgical drain site. The patient consulted a medical acupuncturist after suffering five months of continuous chest and arm pain associated with "tingling" in the forearm and hand. She had undergone trans-axillary resection of the first left rib following a left axillary vein thrombosis 18 months previously. Her symptoms had been principally attributed to nerve traction at surgery or nerve root entrapment from scar tissue. However, the drain passed through the free border of pectoralis major, and the myofascial trigger point that appeared to develop as a result of the muscle trauma, or the pain at that site, presented as a chronic and complex post-surgical pain problem. The pain and tingling resolved completely after two sessions of dry needling at a single myofascial trigger point in the free border of the left pectoralis major muscle.

Keywords

Acupuncture, myofascial pain, pectoralis major, trans-axillary surgery, post-surgical pain.

Introduction

Myofascial pain following surgery is probably a relatively common event, although there are no studies that quantify its frequency in a surgical population. Theoretically it may develop as a result of minor muscle trauma sustained during the period of anaesthesia. This could be due to blunt trauma or overstretching, for example. Simons et al, and Baldry, both cite surgical trauma as a potential cause of myofascial pain, but reference to this is generally restricted to intercostal and abdominal muscles. Hamada et al document a case series of 27 patients with post-thoracotomy pain, which is often assumed to be neuropathic, and they found the primary source of pain to be myofascial in 67%. They commented that the existence of a trigger point significantly increased the rate of success of their treatment, which involved injection techniques. Hsin et al describe a case of myofascial pain from pectorals minor following open cholecystectomy in a patient with cervical ankylosing spondylitis, and comment on the diagnostic difficulty of differentiating this from a brachial plexus injury.

This is the first reported description, to the author's knowledge, of myofascial pain occurring at a surgical drain site, and presenting as a chronic and complex post-surgical pain problem.

Presentation

TC was a 28 year-old woman who presented to the British Medical Acupuncture Society's London Teaching Clinic with a five-month history of "strong pain in the left arm and chest". She attributed the pain to a trans-axillary resection of the first left rib, which had been performed 18 months previously. The surgery had been undertaken acutely, following a left axillary vein thrombosis. She had suffered previous thrombosis in both left and right axillary veins on separate occasions. She went on to require a venoplasty two months later. For two or three months following the trans-axillary surgery she had left-sided chest pain at a drain site. During a cold spell the following winter, the same pain returned, increased in severity, and spread down the inside of her left arm to the ulnar aspect of her forearm and hand, including the fourth and fifth digits (see figure 1). She described the pain as a permanent heavy aching with sharp and burning
exacerbations. Another aspect of the pain was a 'pinching' sensation in the free border of her left pectoralis major, and a 'pulling' sensation in the fourth web space of the left hand. Since the trans-axillary surgery she had noted a patch of numbness and paraesthesiae on the inside of the left upper arm. She also admitted to intermittent paraesthesiae in the ulnar aspect of the left forearm and hand, which had started about the same time as the pain in her left arm. The chest and arm pain was exacerbated by cold, psychological stress, and exercise.

TC had a sedentary occupation in marketing, and although she enjoyed physical exercise, this had been limited by her pain.

On examination there was a discrete area of tenderness in the lateral aspect of the left pectoralis major muscle, near to the site of a small surgical scar – the drain site referred to above. No significant tenderness was detected in any other relevant muscles. Tests for thoracic outlet obstruction were negative on the left side; however, relatively gentle pressure over the right first rib caused obliteration of the right radial pulse.

The author's impression was that at least a portion of her pain was derived from a myofascial trigger point in the left free border of pectoralis major. However, it was also possible that she had an element of neuropathic pain derived from surgical damage to the left intercostobrachial nerve. There did not appear to be any thoracic outlet obstruction contributing to the pain.
although the pain distribution appeared to be consistent with entrapment of the lower roots of the brachial plexus – C8/T1 (see figure 1).

**Treatment and Results**

At the first session the suspected trigger point in the left free border of pectoralis major was needled gently and briefly. Two needle insertions were performed for about 10 seconds each with minimal manipulation of the needle. The patient was advised in regard to stretching techniques for the involved muscle.

On review after a fortnight TC reported that the ‘tingling’ in her left arm had resolved, and the ‘pinching’ and ‘heavy aching’ pains had improved. There was marked tenderness in the fourth web space of the left hand, and pain on resisted contraction of the interossei. Nerve tension tests were unhelpful. The author considered the possibility that this was a satellite myofascial trigger point, originally developing secondary to an exacerbation of pain from a primary trigger point in pectoralis major, and subsequently becoming self-perpetuating.

The plan at the second session was to needle both the trigger point in pectoralis major and the most tender area in the fourth web space of the left hand. However, the ‘pulling’ sensation in the left hand, which had been constant for the previous two weeks, resolved immediately after needling the pectoralis major trigger point. Two needle insertions were performed at the pectoralis major trigger point for about five seconds each with moderate needle manipulation. One of the insertions was noted to be rather painful.

On review after a further two weeks TC reported that all her pain had resolved completely two hours after the second session. No further acupuncture was performed.

**Discussion**

Muscle pain is rarely considered as a significant source of chronic post-surgical pain. In this case the patient was reviewed by the surgical team a year after her venoplasty, and digital subtraction imaging confirmed adequate blood flow in the left axillary vein. The patient asked about her various upper limb symptoms, and following clinical assessment she was given four likely causes: traction (at surgery) on the intercostobrachial nerve, rotator cuff atrophy, Raynaud’s phenomenon, and possible scarring (following surgery) around the C8/T1 nerve roots. She was advised that her symptoms should all resolve with time.

Some two months later, and after five months of constant pain, she sought complementary therapy. Her symptoms were affecting her quality of life and her activities, but she was able to work fulltime. Perhaps most importantly, her pain problem had caused her to decide against further prophylactic surgery on the other side, where she had also suffered an episode of axillary vein thrombosis.

Two sessions of needling the same point in her left pectoralis major muscle coincided with complete resolution of her pain and paraesthesia. She retained a degree of numbness in the distribution of the intercostobrachial nerve, and there was some subjective weakness (clinically there was full power). The intervention took no more than a few seconds on each occasion, and the patient was encouraged to stretch the muscle at home. The circumstances are highly suggestive of a muscle source for her pain and ‘tingling’, and that dry needling was an effective intervention. Empirical descriptions of myofascial trigger points in pectoralis major are consistent with most of the patient’s symptoms in this case. However, the pain or trauma at a surgical drain site has not previously been noted as an aetiological factor in this location.

In conclusion, the author believes that muscle is an important and under-recognised potential source of chronic post-surgical pain, and in this instance it appeared to be treated effectively with dry needling.

**Reference List**

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