Massage therapy decreases pain in rotator cuff muscles and upper arm muscles post coronary bypass surgery: A retrospective case report

Introduction

Much care is taken in the operating room to position a patient in ways to reduce the risk of nerve and other tissue damage during surgery. Considerable research has been done and specific guideline have been created to minimize risks. However, according to one review of the American Society of Anesthesiologists Closed Claims Database up to 15 percent of cases involved position related nerve damage. Damage can be caused by creating prolonged pressure on muscles, tendon and nerves resulting in ischemia. This ischemia can range from mild and easily reversible with little or no lasting effects to severe with devastating effects. The soft tissue damage resulting in muscle irritation, trigger points, edema and adhesions are areas in which massage therapy may aid in tissue recovery, however, little or no research can be found specific to massage therapy treatment for post surgical complications.

A literature review of the effectiveness of massage therapy in treatment of post surgical complications of patient positioning yielded no results. However, articles were found that relate to aspects of this case, for example, the role of trigger points in shoulder pain and the use of massage therapy to treat pain associated with degenerative disc disease.

The case

The client, a gentlemen in his late 60's, presented with severe right side shoulder, arm and elbow pain. The client was approximately 3 months post coronary bypass surgery. He had been diagnosed with degenerative disc disease sometime prior to presentation. He had been diagnosed with a rotator cuff tear and arthritis of the elbow at some point after the open heart surgery.

Physical therapy had yielded no improvement in the clients condition or symptoms per client report and he was in consultation with a surgeon considering rotator cuff surgery. He was under the understanding he would "just have to deal with the elbow arthritis pain". The client was taking ibuprofen regularly.

The client was seeking pain reduction as it was interfering with his productivity at work and enjoyment of life. The client is a research physician and instructor at a local medical school.

Weakness and pain was found in assessment of all four rotator muscles with significant range of motion restriction due to pain on active and passive movement of the shoulder. The elbow was found with no edema, warmth or range of motion restriction that would be expected in an acute arthritis flare. However, the client was experiencing a constant ache in the area of the elbow.

The therapist suspected complications of patient positioning during the surgical procedure to be the cause of some significant portion of the clients symptoms. The first 60 minute treatment proceeded with assessment of the of cervical alignment with treatment muscles that can influence alignment. Significant to note the client felt immediate partial relief of posterior shoulder pain upon gentle cervical traction. The SCMs were found to be significantly shortened. Perhaps from significant forward head posture and years of looking through a microscope, reading and writing research papers and reading and scoring student work. The longus coli and anterior scalenes were all very tender to touch. Work was done to lengthen all of these muscles. Muscles that can entrap the brachial plexus were then addressed. As stated the anterior scalenes were very tender as well the right middle scalene and the right pectoralis minor. From there every muscle touched caused pain. Movement of the shoulder, active and passive caused pain. Some areas were perceived by the

client as a "good pain" and others as a "bad pain". Bad pain was avoided. All muscles of the rotator cuff, trapezius, deltoid, bicep and tricep were, with light to medium pressure, carefully, thoughtfully and thoroughly worked through. Fascial work was done over potential nerve entrapment sights.

The client returned one week after initial session then every two weeks for approximately 3 months. In all, 8 sessions of 60 minutes. With each progressive treatment the diffuse pain was subsiding and more localized areas of tenderness to touch evolved with trigger points eventually revealed. The elbow was the first to totally resolve after only two treatments. The bicep, tricep and brachioradialis tendons seemed to respond well to light pin and stretch and cross fiber treatment. Eventually the subscapularis presented as the most tender with the most trigger points as the other muscles regained health. The patient continued to experience relief with mild cervical traction and described all neck work as feeling very significant. After the 8 treatments the client verbalized significant relief of shoulder pain and total relief of the elbow pain.

Conclusion

This case report describes how massage therapy reduced pain from complications of surgical positioning for one client; however, larger randomized control studies need to be done in order to determine the effects of massage therapy on these conditions.

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Bonnaig, N., Dailey, S., & Archdeacon, M. (2014). Proper Patient Positioning and Complication Prevention in Orthopaedic Surgery. The Journal Of Bone And Joint Surgery. American Volume, 96(13), 1135-1140.

Fournier, C., & Reeves, S. (2012). Professional status and interprofessional collaboration: A view of massage therapy. Journal Of Interprofessional Care, 26(1), 71-72. doi:10.3109/13561820.2011.606380

Jonsson, C. (2012). The Role of Myofascial Trigger Points in Shoulder Pain: A Literature Review. Journal Of The Australian Traditional-Medicine Society, 18(3), 139-143.

Narrative

Also of interest, my search yielded an article from the Journal of Interprofessional Care from the UK, titled Professional status and interprofessional collaboration: A view of massage therapy. This was of interest to me in direct relation to this case. I am an RN as well as LMT. This client is a physician who teaches at a local medical school. He came to his first appointment with mild resentment that his girlfriend was 'making him'. He expected a relaxation massage. He completed the intake form with only minimal information with no complaints, surgeries or medications listed. As I started my assessment he was resistant to discuss any problems and appeared mildly irritated that I was wasting time talking instead of just getting this massage over. He told me he had "some rotator cuff issue" and arthritis in his elbow. I proceeded to use my PMNT education to test his rotator group and bicep, while explaining what I was doing and why and what structure exactly I was touching. That got his attention. He said

something along the line of I am impressed you know all those words. From that point he was more invested in massage as treatment and not just relaxation.

We ended up spending that entire hour on his one shoulder. I touched through every muscle of his neck, shoulder and upper arm. I didn't understand, they were ALL 'hot'. Then I saw it. A relatively fresh scar on his chest indicating he had had open heart surgery. Nothing was mentioned on his intake form. (He didn't think a massage therapist needed to know that.) Upon assessment it was revealed the pain in his shoulder, arm and elbow all started after his coronary bypass surgery approximately 3 months earlier. Being familiar with surgical procedure and the importance of patient positioning, it all started to make sense. His right arm would need to be out of the way to place the chest tube for surgery. The patient eventually added he had been diagnosed by X-ray with degenerative disc disease at C4-5.

I started treatment over, focusing on assessment of cervical alignment, treating muscles that could restrict cervical movement, then moving on to treatment of muscles that could impinge the brachial plexus and its branches.

The patient returned the next week for another appointment stating significant improvement and continued every other week for several months. He stopped attending physical therapy stating massage was providing him more effective treatment. He cancelled future appointments with the surgeon with whom he was consulting for rotator cuff surgery. And he began seeing a chiropractor for the first time. Over those months we had many discussions of the use, or lack there of, of massage therapy in conventional medicine. I asked of him only one thing, remember this experience as you teach and influence the next generation of physicians.

The last time I saw him in treatment he asked for treatment of his hip pain (tight priformis and ITB) and stated his shoulder and arm needed no significant attention.

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