

Katy Master DARM SMTO – Case Study Shoulder & Neck Pain

Introduction

The client is a 46 year old female. She is married with three children. She and her husband own a mixed farm, in which she plays an active role, including driving heavy machinery and lorries. She participates regularly in a variety of sports: curling, tennis and hockey, and undertakes a weekly long walk with a local walking group.

She considers her general health good. She has experienced shoulder and neck as well as back pain at various points in her adult life, and has found complementary therapies, reflexology and osteopathy in particular, to be of great benefit. She has a positive attitude to complementary therapy – preferring it as a first resort over conventional medicine as a general rule.

In 2006 she experienced the signs and symptoms of an overactive thyroid gland, with a suspected diagnosis of Grave's Disease, although this diagnosis was never officially confirmed. She took Carbimazole for a short time, to which she did not react very well. She stopped the medication and in time the signs and symptoms went away.

In the last few weeks she has become anxious that the signs and symptoms of hyperthyroidism are returning and has visited her GP to discuss this who has taken blood to carry out diagnostic tests. She does not experience the signs and symptoms every day and was not experiencing them on the day of the consultation and treatment. She has been prescribed a 'beta-blocker', Propranolol, for anxiety, but after taking one initially has not felt the need to use them.

Despite the anxieties over her possible hyperthyroidism and a recent house move, she feels that she deals positively with the stresses and strains of day-to-day life.

The primary complaint

The client presented on 31st January 2011 with what she described as shoulder and neck pain, although explained that the predominant pain was between her shoulder scapulae. She reported that she first experienced pain in this area when pregnant with her third child in 1997, which worsened in the immediate post-natal period. She speculated whether the larger than average birth weight (over 9lb) of her daughter had been a factor in this. At that time she had reflexology for her condition and, over time, it improved. She has experienced further episodes of shoulder pain periodically over the years that followed, caused, she thinks, by manual labour and saw her reflexologist each time, which always helped.

This recent episode of shoulder pain, possibly triggered by increased amounts of lorry driving and computer work as well as two falls on the ice over the recent

Christmas period, had a gradual onset over the last few weeks. The pain is worst between the scapulae, radiating out to the lateral borders of both and on to the shoulder joint and top of arm on the right. She describes the pain as a dull and dragging ache, which feels constant but does change in severity. It wakes up her up most nights. It is aggravated by tennis, especially when serving, which she does right-handed. Other sports do not especially exacerbate the condition, but pushing up overhead to shut the lorry door (again with right hand) does. Heat can help alleviate the pain.

General examination

The client carries her head with a sidebend to the left and adopts a slight head forward posture. Her right shoulder sits higher than her left and is more medially rotated. Her upper thoracic spine has an increased kyphosis (both hockey and the sweeping of curling promote a kyphotic curve with protracted shoulders). The curvature of her abdomen is more concave on the right side of her body. Her right iliac crest appears to be higher than her left when standing and her right hip laterally rotated. Her right foot is more pronated than her left.

Specific examination

Specific assessments were carried out for the shoulder complex, the neck and the pelvis. Key findings were as follows:

Shoulder: I found that movement was generally more restricted on the right and that medial rotation of the right shoulder joint caused pain at the anterior upper arm. Adduction of the right arm across the body caused a great deal of pain in the same place, but only when the arm was laterally rotated as well; when medially rotated it did not hurt much at all. This suggested possibly a problem with pectoralis major, which would be lengthened by the laterally rotated arm. On palpation, pectoralis major was tender, and tight. In addition, this shoulder was in resting position more medially rotated, and the humeral head was more anterior than that on the left.

Resisted abduction on the right arm when abducted at 90 degrees elicited much pain at the supraspinatus, although there was no particular tenderness on palpation.

The right-hand first rib appeared to be elevated on palpation.

Neck: sidebending of the neck in both directions was very restricted; the client found it almost impossible to do, especially on the right. It was tight rather than painful. The head is carried to the left when standing at ease. On forward-bending test with thumbs placed over the articular column left and right, right thumb rose first and more so than left for all cervical vertebrae (atlas and axis excepted), suggesting a sidebent left position.

The occipital-atlanto (OA) and atlanto-axial (AA) joints were examined. On palpation, sulcus depth on the left of the OA joint was found to be greater and the client reported some tenderness which worsened as the head was flexed. This suggested that the occiput was sidebent right and rotated left (as the joint obeys Freyette's law one – if sidebent one way then rotated the other) and was extended on the atlas. With the client supine, the head was taken passively into full flexion and passively rotated both ways. It was restricted rotation to the left, suggesting a right rotated position for the AA joint.

Pelvis: Forward-bending test standing and seated on posterior superior iliac spine (PSIS) movement suggested an ilio-sacral lesion rather than a sacro-iliac lesion. Positions of anterior superior iliac spine (ASIS), PSIS and depth of sulci medial to PSIS when lying on couch all suggested a posteriorly rotated left innominate [left ASIS higher, left PSIS lower, left sulcus deeper].

Treatment goals

The plan for the first treatment was to restore first rib, humeral head, cervical spine and pelvis to better positions, and if time allowed, to carry out massage to surrounding soft tissue, with priority given to pectoralis major on the right. The client wanted her pain to reduce.

Treatment one: treatment, reassessment and advice

Muscle energy techniques were used to treat:

- OA joint lesion (extended, sidebent right, rotated left);
- AA joint lesion (rotated right);
- C3-C7 lesion sidebent left, rotated left – this was carried out at C5, the apex on the sidebend;
- elevated first rib – seated technique – right hand side;
- anterior humeral head, right hand side;
- left side posterior innominate – as well as MET for pubis symphysis lesion and gapping of both sacro-iliac joints, to maximise possibility of pelvic position improving.

I carried out proprioceptive neuromuscular facilitation technique to pectoralis major on the right, gradually taking the arm into abduction and lateral rotation and using resisted adduction and medial rotation in different positions to work all fibres. I passively stretched the muscle.

I found upper trapezius to be tender and tight and carried out resisted depression of the shoulder to release it on both sides (I wondered if the pain on resisted abduction found during the specific assessment was actually coupled with upper trapezius dysfunction, rather than supraspinatus).

With the client seated, I passively mobilised both shoulder joints (in turn), both scapulae and carried out a gentle traction of each shoulder joint.

On reassessment, I found that:

- The position of the pelvis was now good, and appeared symmetrical
- The positions of OA, AA and C3-C7 were improved, although I felt that further improvements might be achieved.
- Neck sidebending and rotation had improved a little.
- Right-side first rib and humeral head positions were improved – looked and felt symmetrical.
- Right shoulder movements had improved greatly and were no longer restricted compared to left.
- Significantly for the client, pain between the scapulae had gone, and the specific pain caused when adducting the right arm across the body with the arm laterally rotated was no longer elicited by this movement.

I showed the client simple active range of motion neck movement stretches and advised that she started to carry these out on a daily basis. I also showed her a stretch for pectoralis major and suggested she carry this out too. I advised her keep well hydrated and she may experience a reaction to the treatment within the next 48 hours.

I felt that the neck required further attention and advised the client of this, as well as the need for massage to soft tissues of the neck and shoulder. I suggested a further appointment within the next seven days if possible – however the next mutually convenient appointment was ten days later.

Treatment Two: assessment, treatment, reassessment and advice

Ten days later on 10th February I saw the client again. She had been under increased stress over the last week as her grandmother had died; the funeral had taken place the day before the treatment. However, she was pleased with the progress since her first appointment and reported that her pain had significantly reduced, despite the fact that she had been driving the cattle transporting lorry more than usual. She said that she had been carrying out her exercises and taking care with her movement.

The pain between the scapulae she described now as intermittent. When she feels it, it is worse on the right.

She had not received the results of all the blood tests carried out to test for hyperthyroidism, so has no conclusion yet, although she said that was less worried than she had been about it, as the signs and symptoms were getting easier. She said that she didn't think herself that it was Grave's disease.

I re-examined her pelvis, neck and shoulders.

I found that her left innominate was again rotated posteriorly and that this time, her left sacro-iliac joint also appeared to be lesioned, as the seated forward-bending test for PSIS movement was positive on the left, as well as the standing test. I also carried out a forward-bending test for the lumbar spine and found that L3 appeared to be sidebent to the right, although when prone on palpation of the transverse processes it did not appear to be a primary lesion as there was no evidence of rotation.

The findings for OA and AA joint were the same as previously which suggested that the corrections at the first treatment had not been sufficient to restore position and that soft tissue work was also needed. The other cervical vertebrae seemed to be good – no evidence of sidebending was found. The client was experiencing pain in left upper trapezius on rotating her neck to the left. Sidebending both ways was restricted both ways, with tightness and pain in the lateral neck on the left when she bent it to the left.

The shoulder problem appeared to have shifted somewhat to the left. Although the client reported that the pain between the scapulae was worse on the right, shoulder joint movements were now more restricted on the left. Pectoralis major fibres were tight and tender at both shoulder joints, but worse on the left, and the left humeral head appeared now to be more anterior than the right, with the left rib also elevated relative to the right one. The adduction of the right arm across the body with laterally rotated arm still elicited some pain, although not as much as it did at the first treatment.

Following discussion with the client, we agreed that the treatment would focus on restoring the position of pelvis, neck joints, rib and humeral head, and include more massage of soft tissue.

I carried out muscle energy techniques as follows:

- OA joint lesion (extended, sidebent right, rotated left);
- AA joint lesion (rotated right);
- elevated first rib – seated technique – left hand side;
- anterior humeral head, left hand side;
- left side posterior innominate;
- MET for pubis symphysis lesion;
- gapping of left sacro-iliac joints.

I mobilised and tractioned the cervical spine, after some soft tissue work.

I repeated the proprioceptive neuromuscular facilitation (PNF) technique to pectoralis major on both sides, but with greater attention given to the left. I also found the left side pectoralis minor to be tight and tender on palpation and released it. I carried out further soft tissue remedial massage to shoulders and neck – focussing on upper trapezius, rotator cuff and levator scapulae in

particular. I found a particularly tender spot in left side upper trapezius, which I released. I repeated the seated shoulder joint and girdle mobilisations to shoulder on both sides, with gentle traction of both shoulder joints to finish.

On reassessment, I found that the pelvis was good and S/I movements even. I had checked the pelvis after the initial correction and found it to be good. At the end of the treatment, it was still good. L3 did not appear to be sidebending to the right anymore.

Left first rib and humeral head positions were restored and even compared to right. All shoulder movements were good and pain-free. Neck OA and AA joint positions felt even and movement was even. Active sidebending was still a little restricted, as was rotation, but pain much reduced. The client reported that she, "felt no pain at all".

I suggested that continue to carry out the neck stretch exercises, and those to stretch out pectoralis major, as they seem to have helped. The client said that she was going on a skiing holiday in a few days time and that she was a little anxious as she had never skied before, and planned to warm-up and down properly and take things cautiously to minimise the possibility of injury.

We arranged a third treatment for twelve days time, after she had returned from her holiday.

Treatment Three: assessment, treatment, reassessment and advice

I saw the client again upon her return, on 22nd February. She had enjoyed her holiday, and her precautious approach to a new sporting activity had paid off – her shoulders and neck felt, "really good", all the pain had gone in her shoulders and neck, although she said she was aware of her neck 'creaking'.

However, her main concern now was her upper arm. She had had a minor incident on the skiing holiday, in which she had grabbed hold of a ski-lift with her right hand, and it had wrenched her arm somewhat as the slack was taken up to tug her along. She and her family had avoided this particular lift thereafter. She said that the pain in her arm was not severe, but that playing hockey the previous night had aggravated it, especially when pushing the ball, and that she would like it sorted.

She had had no further results on her blood tests, but was increasingly less concerned about her possible hyperthyroidism.

I observed the client and carried out specific examinations of the neck, shoulder complex and elbows.

Her shoulders look much better – their positions appear even in both coronal and transverse planes. Function of shoulder joints and girdle were both generally good, with no restrictions in movements or pain, just a little pull reported by the

client in the right posterior upper arm on resisted lateral rotation, adduction and extension. The adducted, laterally rotated shoulder is the position the shoulder was in when the ski-lift was grabbed.

Active and passive elbow movements were all good, but resisted extension of the right elbow elicited much pain in the anterior and posterior upper arm, just below the shoulder joint. Resisted supination caused some pain in the anterior upper arm just above the elbow.

Neck examination revealed that active range of movement was generally good, with some restriction in sidebending both ways. OA and AA joints were good, C3-C6 were good, but C7 appeared to be sidebent and rotated to the right.

The client's priority was to reduce the pain in the arm. The agreed treatment was to correct the C7 lesion and then carry out soft tissue work to neck, shoulders and arm.

I carried out a muscle energy technique to restore C7 to a more neutral position and followed with soft tissue techniques to scalenes, posterior neck and upper trapezius muscles. I carried out a supine mobilisation to the cervical spine and traction with towel. I used soft tissue techniques, including myofascial release, 'milking' compressions, resisted eccentric contraction and PNF to reduce spasm in and lengthen both triceps and biceps brachii.

On reassessment, shoulder complex was all good on both sides, the pain caused by resisted elbow movements on the right was, "practically gone". C7 no longer appeared to be sidebent, and neck sidebending had improved. The client was pleased. Referring back to her initial consultation, I asked whether she had experienced any changes to the pins and needles sensations in her hands upon waking. She reported that she no longer had this feeling in the morning, suggesting that the work to neck and shoulders over the weeks has relieved impingement on the brachial plexus.

I suggested that she continue to do neck AROM stretches, and advised her to come back in 2 to 3 months time to check the symmetry of neck, shoulder and pelvis. I suggested further that more attention might be given in the future to her thoracic spine.

Conclusion

I enjoyed working with this client. She responded very well to treatment, and it's possible that the very positive attitude she has to complementary therapy in general had a role to play here, as did the interest she took in the treatment and what we were trying to achieve, as well as her commitment to doing the things that she could do herself to improve her condition.