

OSTEOPATHY – Thoracic Spine/Sternum pain

By Maggie Brooks-Carter DO, RGN, SMTO

A male patient age 25, 6ft 2inches tall, normal weight, presented with pain to the right of the thoracic spine radiating around to sternum which he described as very acute at times particularly when tired. The pain spread as a band around chest to sternum and then would slowly fade away. His job as a nurse in the intensive care unit involved lifting. He worked night shifts - when he was particularly aware of the pain. The pain eased on rest.

Consultation and history taking gave a picture of a healthy individual who exercised by walking his dog, ate sensibly and was in a good relationship. There was no medical history of note. He has not consulted his doctor about this problem as past experience has shown him that all he will be given is tablets. He has come on recommendation of a work colleague.

Onset had been insidious and he could not remember exactly when the pain began but thought he could relate it to lifting someone a week or so previously - though he admitted he was not as aware of his biodynamics on night duty. The pain was now getting worse and he asked how osteopathy worked.

I explained that I needed to perform an examination to detect what structural imbalances were present and what restrictions there were in movement. Then, once we had identified and isolated the problem, I would work to free the restriction and mobilise to encourage normal movement and the return of balance. I showed him on a model what his problem involved.

He described the pain as lancing and piercing when acute at the level of the costo-transverse joint; it then radiated around to anterior. He thought it was more painful on inspiration. He reported no numbness or radiation of pain. The pain was definitely worse on pulling movements and worse when tired - it was particularly bad this week as he was still on night shift. It did wear off at times but he was aware of 'something not being right'.

I questioned him about digestive problems in particular, as thoracic lesions often contribute to gastro-intestinal problems. I also asked him if he had any other problems in any other limb(s). I always ask this as pathology in the thoracic spine can also refer pain to the legs, arms, neck or head. I was particularly interested to check if he had problems in shoulder movement, as they are often restricted in thoracic lesions.

I also questioned him about any respiratory difficulties - he thought the pain was worse on inspiration. He was not aware of any motor or sensory loss.

No allergies or health problems reported and on discussion of general health, there was no reason not to continue to examine with a view to treating osteopathically. The patient agreed with what I suggested and we proceeded to the examination.

I feel I offer patients enough time to discuss their problem. I then require them to agree to continue to examination and then to treatment.

Examination

General - observation from all angles as usual and I observed gait - no abnormalities noted

Checked pelvic girdle and hips check levels of shoulders - right shoulder lower, right innominate slightly higher.

Checked whole spine for areas of flattening or abnormal kyphosis - only noted deviation around T10-12 and flattening at T8. T7 is considered the transitional area where upper limb movements have their axis with lower limb.

I always check the whole body - if justified I would then examine other areas more specifically. Certainly, had he complained of any other discomfort - e.g. in sacral area or lumbar spine, I would have examined there as well. I feel very strongly that everything is connected and the dynamics of osteopathy excite me when I realise how it can help so many diseases.

Observation: for erythema, scar, discoloration, areas of obvious flattening, areas of obvious spasm, or wasting of muscles, deviations (scoliosis), lumbar lordosis, thoracic kyphosis, evenness in ribcage and position of same, noted musculature

Noted the patient had nil of note - good musculature, some flattening in thoracic spine with deviation in spinous processes at levels T10 - T12 and T8.

Observation and range of motion

General: flexion, extension, side bending, rotation - the only abnormal movement was on lateral flexion which was limited to the right, flattening as mentioned before. Movement of ribs with breathing showed a slight difference on the right.

Performed safety checks and used springing movement to check condition of spine - sudden unexplained guarding might have suggested pathology such as a space occupying lesion or even osteomyelitis. This translation shows the amount of 'play' at each level and thus assists in detecting facet joint lesions. All was in order on examination.

Light palpation showed flashing (erythema) at levels T10, (T10 spinous process is level with transverse process of T11) T8 otherwise fine. There was no real temperature difference.

PALPATION: spinous and transverse processes (on the middle and slightly to side of spine, over facet joints (these are synovial joints which need to be kept mobile), angles of ribs in inhalation and exhalation applying gentle pressure,

Palpating the spinous and transverse processes for deviations determines whether a rotation lesion is present, palpated paraspinal muscles - compared consistency and size also abdominal muscles (in flexion), palpated rib movement with inhalation and exhalation and compared sides.

Palpation supine: clavicle - NAD
Sternum and sterno-clavicular joint - NAD
costochondral joint at rib 8 was tender on right
(Want to exclude Tieze syndrome costo-chondritis)
costosternal joint at rib 8 also tender on right

Abdomen: spleen at levels of ribs 9 - 11

SPECIFIC EXAMINATION OF THE THORACIC SPINE

- Patient seated; 2nd and 3rd fingers on transverse processes (TP) of suspected lesioned area - dip head forward and back
On forward bending -
- Both TP move together - either OK or if painful then suspect a straightforward flexion/extension lesion
- One TP moves that segment has to sidebend to opposite side, worse in flexion
On backward bending
- One TP moves that segment has to sidebend to the same side, worse in extension
- TP process more superficial - then rotation is to that side

SPECIFIC EXAMINATION FOR RIB LESIONS

- Test for inspiration lesion - found lower rib T10 stuck in inspiration.
- Test for expiration lesion which really only occurs only in lower ribs.

I placed my hands on the rib cage and asked patient to breathe in and out deeply. There was a slight difference on the right. T10 stuck in inspiration meant that with inhalation there is a force so when recoil occurs in exhalation, this is not painful. Rib 10 articulates with a single vertebra and as such has a whole facet. I had to consider all the attachments and joints involved.

Had I suspected pathology I could have measured inspiration and expiration with a tape measure - this would then serve as a record for future visits e.g. a patient with emphysema or other chronic lung condition - which often are helped with osteopathy.

ASSESSMENT OF NERVOUS SYSTEM

Showed no loss of sensory or motor function

Alert, communicative, understood questions; good co-ordination, no obvious unsteadiness observed.

Sympathetic/parasympathetic actuation - patient concerned about his problem and obviously finding some movements painful and stressful - I try to leave painful testing to last so as not to stress patient unduly.

NEUROLOGICAL TESTING

Kernig's test stretches the spinal cord to reproduce pain - patient was supine with hands behind head and then flexed head onto chest. Pain may indicate meningeal irritation, irritation of dural covering Valsalva manoeuvre - bear down as if defecating; pain may be due to increased thecal pressure - negative in this case.

T1 interossei

T8/9 upper abdomen; T9/10 mid abdomen; T11/12 lower abdomen.

L2/L4 quadriceps femoris; L4-S2 hamstrings, L5 - S2 Achilles'

No reason to test cranial nerves as senses seemed in good working order and he complained of no problems in this area.

No abnormalities discovered.

TREATMENT PLAN

My goals of treatment were to ease his pain and to restore mobility in the lesioned vertebrae and rib.

I chose Muscle Energy Techniques to begin to mobilise the thoracic lesion at T10 and T8 and the rib 10 lesion. I felt once the muscle spasm had eased sufficiently, I would then utilise a high velocity thrust to mobilise the thoracic and rib lesion.

I find using this approach ensures that the high velocity thrust can be used with less reaction afterwards from inflamed and painful tissues.

Muscle Energy Techniques involve positioning the patient in such a way and then asking him to resist a specific movement. Thus, the patient is using his own muscles to restore balance

I then performed a high velocity thrust to the costo-transverse joint which 'clicked' and the patient felt the improvement instantly. I used the 'dog' technique positioning carefully. The patient lies face up with his arms crossing the chest and the osteopath lines up the lesioned area underneath.

I then performed a high velocity thrust to the T8 lesion, which had obviously occurred as secondary compensation - it released easily.

I then explained to the patient that he might find it got worse before it got better - he told me he felt a 'new man'; I explained that I would need to check it again in a week's time as we might have to repeat the treatment as the body got adjusted to the new position.

I am aware of healing crises, which can be severe in some people. If the pain does become intense I recommend an ice pack - frozen peas for ten minutes over the area which would be covered with a thin cloth. This can be repeated twice - certainly I do not advise over icing. I discussed posture with him and suggested that he make a conscious effort not to continue his holding pattern. In pain, we often adopt postures that become a habit and bad habits are difficult to change. I asked him to take it easy for the rest of the day and then made another appointment for the following week.

Second visit - one week later

Great improvement in pain - he had suffered a bit the day after treatment. He felt it was coming back and felt he had aggravated it at work again. The pain was not as severe and the T8 lesion had not come returned.

I asked him if anything else had happened since I last saw him, that I should know about. He said 'no'. However, I have found that rib lesions that are very resistant to treatment are linked to emotional problems and talking a little helps. I do refer to a local counsellor when necessary - i.e. beyond my skills.

I then re-examined also checking pelvis, cervical spine in case there was a contributory factor from there.

I then performed soft tissue manipulation to prepare area, particularly intercostal area, trapezius, rhomboids, scalenes, levator scapulae, mobilised with passive movements and the muscle energy technique used for the rib on the first visit. I then performed a high velocity thrust to the T10 lesion, which was flexed, rotated and sidebent left (FRSLT).

I then discussed posture, as he did tend to stoop because of his height (6 foot 2 inches).

Third visit - two weeks later

He reported a great improvement and felt fitter in himself. He really saw no reason for this visit - so I explained that treating the soft tissues again would most certainly help to ensure that the area didn't relesion.

On examination, the area of the rib lesion was fine but the thoracic spine at that level was still slightly flexed and rotated left. I mobilised the area with a muscle energy technique and then manipulated with a high velocity thrust.

I suggested he return in a month to ensure all was well. I also suggested coming regularly for a sort of MOT He told me he'd think about it.

I discussed the importance of warming up before any activity including lifting patients at work and also doing gentle stretches to the back and also hamstrings, which I feel; help to maintain flexibility in the back.

I chose this client for this case study as he is one of the few straightforward cases I have had to demonstrate these skills to you.

I have treated successfully - migraine, irritable bowel syndrome, asthma, Raynaud's disease, ME, many painful conditions - such as osteoporosis, arthritis, and autoimmune diseases. If the nerves are compromised at spinal level then the effects are far reaching. Success I feel is an improvement in quality of life - this can be more dramatic for some than for others.

About the Author

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Maggie is an Osteopath registered with the General Osteopathic

Council and Member of the British Osteopathy Association. She is also a Remedial Massage Therapist, Reflexologist and Clinical Aromatherapist and full Member of the Scottish Massage Therapists' Organisation.

Maggie is in practice at the Brooks-Carter Clinic, Suite 5 Braehead Way Shopping Centre, Aberdeen AB2 8RR 01224 822956 which offers Osteopathy, Manipulative Therapy, Advanced Remedial Massage, Sports Massage, Reflexology, Clinical Aromatherapy and On-Site Massage. Maggie is also a Registered General nurse registered with UKCC.

Maggie is also Chairman of the Scottish Massage Therapists' Organisation and Secretary for General Council for Massage Therapy, which is in the process of establishing standards and code of practice nationally. She is also a Member of the recently formed working group for Sports Massage under the auspices of the National Sports Medicine Institute.

Maggie can put you in touch with your nearest therapist or osteopath.
Maggie lectures at Health Shows and runs Stress Management seminars and lectures internationally.

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