

Prevalence of facet joint pain in chronic spinal pain of cervical, thoracic, and lumbar regions

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FROM ABSTRACT

Facet joints are a clinically important source of chronic cervical, thoracic, and lumbar spine pain.

The purpose of this study was to systematically evaluate the prevalence of facet joint pain by spinal region in patients with chronic spine pain referred to an interventional pain management practice.

Methods

Five hundred consecutive patients with chronic, non-specific spine pain were evaluated.

The prevalence of facet joint pain was determined using controlled comparative local anesthetic blocks (1% lidocaine or 1% lidocaine followed by 0.25% bupivacaine), in accordance with the criteria established by the International Association for the Study of Pain (IASP).

Results

The prevalence of facet joint pain in patients with chronic cervical spine pain was 55% (range 49% – 61%), with thoracic spine pain was 42% (range 30% – 53%), and with lumbar spine pain was 31% (range 27% – 36%).

The false-positive rate with single blocks with lidocaine was 63% (range 54% – 72%) in the cervical spine, 55% (range 39% – 78%) in the thoracic spine, and 27% (range 22% – 32%) in the lumbar spine.

Conclusion

This study demonstrated that in an interventional pain management setting, facet joints are clinically important spinal pain generators in a significant proportion of patients with chronic spinal pain.

THESE AUTHORS ALSO NOTE:

“Pain emanating from various structures of the spine is a major cause of chronic pain problems.”

One study found the prevalence of the general population with spinal pain is 66%:

- 56% of patients have lumbar pain
- 44% of patients have cervical pain
- 15% of patients have thoracic pain

A "specific etiology of back pain can be diagnosed in only about 15% of patients."

"The facet or zygapophysial joints of the spine are well innervated by the medial branches of the dorsal rami."

Medical imaging provides little useful information in identifying a precise anatomical diagnosis for the source of pain.

Various studies have found the facet joints causing chronic spinal pain in:

- 15% to 45% of patients with chronic low back pain
- 48% of patients with chronic thoracic pain
- 54% to 67% of patients with chronic neck pain

This study evaluated 500 consecutive patients presenting with chronic neck, thoracic, or low back pain, or a combination thereof. Patients were 18 to 90 years of age with non-specific pain for at least 6 months. Disc related pain with radicular symptoms was excluded.

RESULTS

Most patients had two or three symptomatic facet joints.

The "facet joints were painful in at least one region of the spine in 43%, in at least two regions in 15%, and in all three regions in 2% of patients."

DISCUSSION

"This prospective study of patients with chronic non-specific spinal pain involving the cervical, thoracic and lumbar regions, alone or in combination, demonstrated by spinal region that the prevalence of cervical facet (zygapophysial) joint pain in patients with neck pain was 55%, thoracic facet joint pain in patients with mid back or upper back pain was 42% and lumbar facet joint pain in patients with low back pain was 31%."

"This study also demonstrated bilateral involvement in 69% of patients in the cervical spine, 64% in the thoracic spine, and 72% in the lumbar spine."

"The majority of patients with cervical and thoracic spine had involvement of three joints, compared to the lumbar spine with involvement of two joints. A small proportion of patients had involvement of more than three joints."

"Facet joints have been shown to be a source of chronic spinal pain by means of diagnostic techniques of known reliability and validity."

"Facet joints can be anesthetized with intra-articular injections of local anesthetic or by anesthetizing the medial branches of the dorsal rami that innervate the target joint."

"Controlled blocks are the only reliable tool in diagnosing chronic spinal pain, because there are no clinical features or diagnostic imaging studies that can determine whether a facet joint is painful or not." [21 references]

CONCLUSION

Painful cervical facets were identified in 55% of patients with neck pain.

Painful thoracic facets were identified in 42% of patients with thoracic pain.

Painful lumbar facets were identified in 31% of patients with low back pain.

Depending on the regions involved, most patients had two or three symptomatic facet joints.

Because single diagnostic blocks are unreliable, with a relatively high false-positive rate, two sets of diagnostic blocks on separate occasions are required to indicate that facet joints are a cause of chronic spinal pain.

KEY POINTS FROM DAN MURPHY

- 1) There is a lot of spine pain in our population. One study found that 66% of the general population has spinal pain.
- 2) Of the population with spine pain,
 - 56% of patients have lumbar pain
 - 44% of patients have cervical pain
 - 15% of patients have thoracic pain
- 3) A specific etiology of back pain can be diagnosed in only about 15% of patients.

4) Various studies have found the facet joints causing chronic spinal pain, as follows:

54% to 67% of patients with chronic neck pain

48% of patients with chronic thoracic pain

15% to 45% of patients with chronic low back pain

5) In this study,

Painful cervical facets were identified in 55% of patients with neck pain.

Painful thoracic facets were identified in 42% of patients with thoracic pain.

Painful lumbar facets were identified in 31% of patients with low back pain.

6) Most patients with facet pain have bilateral facet pain.

7) Most patients with facet pain have two or three symptomatic facet joints.

8) The only reliable tool in diagnosing chronic spinal pain from the facet joints is using controlled anesthetic blocks of the facet joint or the medial branch of the posterior primary rami that innervate the facet joint.

9) Single diagnostic blocks are unreliable because they have a high false-positive rate. Therefore, two sets of diagnostic blocks on separate occasions are required to indicate that facet joints are the cause of chronic spinal pain.

COMMENTS BY DAN MURPHY

We have reviewed a number of studies that establish the superiority of chiropractic spinal adjusting and other manual therapy techniques in treating chronic spine pain. This study and others establish that the facet joints are a common source of chronic spinal pain. It is well established that the "noise" associated with a traditional chiropractic spinal adjustment emanates from the facet joint. The historic explanation is that the spinal adjustment mechanically influences the balance of activity between the mechanoreceptors and nociceptors in the facet joint capsules, which inhibits pain (The Gate Theory).

And that improved facet mechanoreception improves the mechano-cerebello-thalamo-cortico-hypothalamo neurological loops of life that influence pain, emotions, hormones and the balance between the sympathetic and parasympathetic nervous systems.