Epidural Steroid Injections: What Current Evidence Suggests by Dr. Warren Hammer

One of the frustrations chiropractors face in practice is treating spinal and associated extremity pain that does not resolve. Often our patients will ask our opinion about epidural steroid injections, or we will refer the patient to a neurologist or orthopedist, who will then suggest the procedure. Like many procedures performed for unremitting pain when neither the medical nor the chiropractic profession is able to relieve the patient by other means, it is important for our patient's sake that we become familiar with the validity of these procedures.

The main reason epidural steroids are used is for **neuropathic pain**. Since 1953, epidural steroid injections have been used for lumbar radiculopathy to reduce proinflammatory chemical agents.[1] However, "[t]hirty-five controlled studies on the subject have failed to provide a definitive answer regarding the efficacy of epidural steroid injections and it is unlikely that future trials will do so."[2] In short, the evidence recommending steroid injections is still unclear.

Before discussing the value of these injections, it is important first to distinguish between neuropathic (may benefit from epidural injection) and mechanical causes. Mechanical back pain can be defined as pain occurring from the spine and its supporting structures. The pain may radiate to the upper thigh and buttocks, but seldom below the knee, and typically is aggravated with movement and relieved with rest. Patients often describe their pain as "throbbing or aching." Mechanical causes considered to constitute 80-90 percent of back pain may include nonspecific back pain due to muscle strain, ligamentous injury, degenerative disc or joint disease, vertebral fracture, congenital deformity (scoliosis, kyphosis, transitional vertebrae), spondylolysis and instability.[3]

Neurogenic pain is symptomatically described as "shooting or stabbing" pain caused by nerve root involvement. Pain usually extends below the knee. For disc problems, prolonged sitting or forward flexion may be more aggravating. **Spinal stenosis** is included as a neurogenic problem and is usually relieved by forward flexion and aggravated by lumbar extension. Stenotic patients can often ride a bicycle and walk up hills. If a patient complains of a specific abrupt-onset event causing neuropathic pain, a herniated disc is considered over a lumbar stenosis.[3]

Chronic **lumbar radiculopathy** is defined as a clinical syndrome of back and leg pain accompanied by sensory, reflex or motor deficits in a nerve root distribution lasting for more than 12 weeks.[4] Neurogenic causes account for 5-15 percent of low back pain and also include osteophytic nerve root compression, annular fissure with chemical nerve root irritation, and failed back surgery (arachnoiditis, epidural adhesions, recurrent herniation).[3]

Regarding epidural injections, while the evidence is weak, there appears to be some benefit.[2] A 2008 article found that transforaminal injections, i.e., depositing the steroid directly over the affected nerve root into the ventral epidural space, were superior to caudal injections.5 However, in a 2011 article published in the *British Medical Journal*,[4] the authors concluded that "neither caudal epidural steroid injections nor caudal epidural saline injections are effective for chronic lumbar radiculopathy and are not recommended as an adjunct to recovery in patients whose symptoms have extended beyond 12 weeks."

In an editorial discussing this article,[2] the author states that epidural steroids should be considered as part of a multidisciplinary treatment plan, especially with acute or subacute radiculopathy secondary to a herniated disc when more conservative measures have failed. He also recommends the injection for chronic or unremitting pain, non-radicular pain and spinal stenosis, although he feels more numbers of these types of patients are needed for validation in future studies.

So, what do you tell your patient? Frankly, when I am unable to relieve a patient from severe neuropathic pain and the subject comes up, I tell them I have had patients experience relief from one week to three months, and that in some cases (not many), the pain resolved completely. Often up to three injections

are recommended. Yes, there may be side effects, such as temporary numbness of the bowels and bladder, infection and a puncture of the dura with a severe headache.

Chiropractic is a drugless healing method always looking for causation rather than symptomatic relief, but as we must realize, there is a time and place for medical relief. In those unresolved cases with unremitting pain, I would recommend the procedure.

References

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