



Intractable Hiccups Resulting from a Cervical Epidural Steroid Injection

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Abstract

We present a case of intractable hiccups following a cervical epidural steroid injection (ESI). A 63-year-old man with a past surgical history of anterior cervical discectomy and fusion presented to our chronic pain clinic complaining of significant cervical radicular pain.

Case Presentation

A 63-year-old patient's multilevel cervical disc disease and prior instrumentation, a cervical epidural steroid injection was offered to the patient. The C7-T1 level was identified fluoroscopically; patient's skin was prepped and draped in a sterile fashion. After guiding an 18 g Touhey needle under fluoroscopy using the A/P and contralateral oblique projections, 0.5 cc of omnipaque contrast medium confirmed epidural placement. Two ml of 4 mg/ml dexamethasone and 1 ml PF normal saline was injected for a total of 3 ml injectate. Patient reported relief of radicular symptoms immediately following the procedure and was sent home later that afternoon. Four days after the procedure patient contacted our clinic complaining of intractable hiccups. The hiccups persisted for approximately 8 days and only resolved following initiation of baclofen treatment.

Discussion

Cervical epidural steroid injections are a commonly performed neuraxial procedure indicated for the treatment of radicular neck pain. Recognized complications, such as high spinal or epidural hematoma are rare and patients seldom report long-term side effects from single shot injections [1]. To our knowledge, this is the first report of intractable hiccups following cervical ESI without local anesthetic in the injectate.

A proposed mechanism for hiccups following lumbar epidural steroid injection described a mass effect of the injectate volume on the patient's CSF canal. Another explanation for the hiccups following cervical injections associates sympathetic blockade causing a partial parasympathetic dominance. However, in this case, no local anesthetic was in the injectate [2]. Though no single explanation completely accounts for the patient's symptoms, it is important to recognize hiccups as a possible side effect of epidural steroid injections.

The incidence of hiccups following cervical epidural steroid injections is not known, but there are case reports describing the phenomenon following lumbar epidural injections. A case report from Texas A&M described a patient who developed persistent hiccups on two separate occasions, once following lumbar epidural steroid injections for lumbar stenosis and a second time one year later when a lumbar epidural catheter was placed for the anesthetic management of his total knee replacement [3]. The authors of that case report postulated that bupivacaine, used in both the epidural steroid injection as well as during the total knee replacement, played a role in the development of the patient's hiccups. A case report from a pain management group in Turkey described a similar experience of post lumbar epidural injection hiccups in which bupivacaine was used in the injectate solution. There is also a case report from Ireland, which described hiccups following epidural injection of levobupivacaine in an obstetric patient. In all cases, the hiccups resolved without medical intervention and began shortly (<24 hours) after the patient's epidural injection. Our experience is distinct in that no local anesthetic was used in the epidural injectate and a much smaller volume of injectate was administered than in all the previous cases described [4]. We therefore propose that hiccups be regarded as a possible side effect of epidural injection regardless of injectate volume or location of injection. Though not life threatening, persistent hiccups are very bothersome and may require medical intervention to achieve prompt resolution. Chlorpromazine is the only FDA approved treatment of hiccups but its use may be limited in many patients given its

OPEN ACCESS

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Received Date: 28 Aug 2017

Accepted Date: 31 Oct 2017

Published Date: 07 Nov 2017

Citation:

Anijar L, Antony A. Intractable Hiccups
Resulting from a Cervical Epidural
Steroid Injection. *Clin Case Rep Int.*
2017; 1: 1030.

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significant side effect profile. Other non-FDA approved medications to consider are baclofen and metoclopramide, both of which have only anecdotal evidence to support their use.

Conclusion

Epidural injections are commonly performed around the world for both pain management and intraoperative anesthesia. Hiccups have been described in patients following epidural injections of various volumes and in various anatomic locations. Though usually benign, hiccups can be a tremendous inconvenience to patients and medical treatment should be initiated for persistent cases. Further investigation regarding the mechanism of this phenomenon is warranted.

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