

Evolution of the Epidural Treatment of Sciatica Provides Excellent Historic Review with Incomplete Modern Evidence

Laxmaiah Manchikanti^{a, b} Joshua A. Hirsch^c

^aDepartment of Anesthesiology and Perioperative Medicine, University of Louisville, Louisville, Ky.,

^bPain Management Center of Paducah, Paducah, Ky., and ^cDivision of Neurointerventional Spine Service and Interventional Care, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, Mass., USA

Dear Sir,

We read with great interest the manuscript by Ter Meulen et al. [1] describing the origin and evolution of the epidural treatment of sciatica. The authors of this note consider themselves to be amateur historians and truly enjoyed Ter Meulen's detailed account of the historical origins of epidural injections that were so well described in this manuscript. Epidural injections were initially performed with local anesthetic alone and used that way for the first 50 years and even significantly thereafter. Thus, for many years, epidural injections were administered with local anesthetic alone, and there existed rather significant clinical evidence of effectiveness equivalent to the mixtures of local anesthetic and steroids, according to numerous published randomized controlled trials (RCTs) and systematic reviews [2, 3]. It is also rather surprising to see that steroids, when administered with sodium chloride solution, failed to show any significant evidence of effectiveness. In contrast, lidocaine alone or lidocaine with steroids have shown to be almost equally effective [2–4]. The authors have carefully chosen and thus accurately used the wording of epidural treatment in the title even though they focused on epidural injection with cortico-

steroids. Based on the present evidence, we believe that they should be termed 'epidural injections' rather than 'epidural corticosteroid injections' because corticosteroids are not always routinely used and are not necessarily effective.

In view the present Food and Drug Administration (FDA) warnings and associated complications of steroids, we are concerned about some of the other aspects of the manuscript. It states that chronic pain patients receive repeated injections every couple of weeks, which is not an accepted practice and could also be dangerous and ill advised [5]. In fact, despite multiple attempts by some for and against restrictions, the FDA has continued to adopt imposed warning and restrictions, while refusing to adopt the neurological standards developed by the Multi-Society Pain Workgroup [5–6]. In addition, the authors, in their quest for evidence, have utilized current state-of-the-art numerous high quality RCTs, which were the subject of multiple systematic reviews [2–4]. Of note, we as well as others have raised concerns about the interpretation of some of these RCTs. As a result, the authors' description of 'no' for the question of do they work and 'yes' for whether they are safe is somewhat con-

troversial. The authors also missed multiple recent RCTs and systematic reviews that could have been analyzed.

The authors may have also found these publications funded by the National Health Service showing the effectiveness and clinical and cost effectiveness of epidural injections helpful to include [4].

Finally, once again, we appreciate this meaningful manuscript and hope the authors agree that it could have benefited from the inclusion of some of the above recent evidence.

Disclosure Statement

Dr. L. Manchikanti has provided limited consulting services to Semnur Pharmaceuticals, Incorporated, which is developing nonparticulate steroids.

The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

References

- 1 Ter Meulen BC, Weinstein H, Ostelo R, Koehler PJ: The epidural treatment of sciatica: its origin and evolution. *Eur Neurol* 2016;75: 58–64.
- 2 Kaye AD, Manchikanti L, Abdi S, Atluri S, Bakshi S, Benyamin R, Boswell MV, Buenaventura R, Candido KD, Cordner HJ, Datta S, Doulatram G, Gharibo CG, Grami V, Gupta S, Jha S, Kaplan ED, Malla Y, Mann DP, Nampiarampil DE, Racz G, Raj P, Rana MV, Sharma ML, Singh V, Soin A, Staats PS, Vallejo R, Wargo BW, Hirsch JA: Efficacy of epidural injections in managing chronic spinal pain: a best evidence synthesis. *Pain Physician* 2015;18:E939–E1004.
- 3 Manchikanti L, Nampiarampil DE, Manchikanti KN, Falco FJ, Singh V, Benyamin RM, Kaye AD, Sehgal N, Soin A, Simopoulos TT, Bakshi S, Gharibo CG, Gilligan CJ, Hirsch JA: Comparison of the efficacy of saline, local anesthetics, and steroids in epidural and facet joint injections for the management of spinal pain: a systematic review of randomized controlled trials. *Surg Neurol Int* 2015;6(suppl 4): S194–S235.
- 4 Manchikanti L, Knezevic NN, Boswell MV, Kaye AD, Hirsch JA: Epidural injections for lumbar radiculopathy and spinal stenosis: a comparative systematic review and meta-analysis. *Pain Physician* 2016;19:E365–E410.
- 5 Racoosin JA, Seymour SM, Cascio L, Gill R: Serious neurologic events after epidural glucocorticoid injection – the FDA’s risk assessment. *N Engl J Med* 2015;373:2299–2301.
- 6 Manchikanti L, Falco FJ: Safeguards to prevent neurologic complications after epidural steroid injections: analysis of evidence and lack of applicability of controversial policies. *Pain Physician* 2015;18:E129–E138.