Epidural Steroid Injection Complications

The problems encountered with blind epidural injections include erroneous placement of the needle, difficulty in entering the epidural space, the risk of a dural puncture, post dural puncture headaches, a rare but serious risk of spinal cord trauma, and the risk of intrathecal steroid injections causing adhesive arachnoiditis and intravascular injection even after negative aspiration [1)]

Epidural Steroid Injection Complications have increased with the growing number of procedures.

Headache is a potential complication of epidural injection.

Inadvertent intravascular injection during epidural steroid injection can result in complications and can be detected with CT fluoroscopy. The incidence was similar to that in previous reports using conventional fluoroscopy. Technical factors such as the “double-tap” on CT fluoroscopy following contrast injection, assessment for discordance between injected and visualized contrast volume, and maintenance of an appropriate FOV facilitate the detection of such events [2)].

see Cervical Epidural Steroid Injection Complication

see Lumbar Epidural Steroid Injection Complication

On April 23, 2014, the Food and Drug Administration (FDA) issued a letter of warning that injection of corticosteroids into the epidural space of the spine may result in rare, but serious adverse events, including “loss of vision, stroke, paralysis, and death.” The advisory also advocated that patients should discuss the benefits and risks of epidural corticosteroid injections with their health care professionals, along with the benefits and risks associated with other possible treatments. In addition, the FDA stated that the effectiveness and safety of the corticosteroids for epidural use have not been established, and the FDA has not approved corticosteroids for such use. To raise awareness of the risks of epidural corticosteroid injections in the medical community, the FDA's Safe Use Initiative convened a panel of experts including pain management experts to help define the techniques for such injections with the aim of reducing preventable harm. The panel was unable to reach an agreement on 20 proposed items related to technical aspects of performing epidural injections. Subsequently, the FDA issued the above referenced warning and a notice that a panel will be convened in November 2014.

The evidence shows the superiority of steroids in managing lumbar disc herniation utilizing caudal and lumbar interlaminar approaches without any significant difference as compared to transforaminal approaches, either with local anesthetic alone or local anesthetic and steroids combined. Manchikanti et al. request that the FDA modify the warning based on the evidence [3)].

1)
Botwin KP, Natalicchio J, Hanna A. Fluoroscopic guided lumbar interlaminar epidural injections: a prospective evaluation of epidurography contrast patterns and anatomical review of the epidural space. Pain Physician. 2004;7:77–80.
2)
Kranz PG, Amrhein TJ, Gray L. Incidence of Inadvertent Intravascular Injection during CT Fluoroscopy-Guided Epidural Steroid Injections. AJNR Am J Neuroradiol. 2015 Jan 22. [Epub ahead of print] PubMed PMID: 25614475.
3)

Manchikanti L, Candido KD, Singh V, Gharibo CG, Boswell MV, Benyamin RM, Falco FJ, Grider JS, Diwan S, Hirsch JA. Epidural steroid warning controversy still dogging FDA. Pain Physician. 2014 Jul-Aug;17(4):E451-74. Review. PubMed PMID: 25054397.