

Abstract # 20

A Comparison of Single Shot Epidural Methylprednisolone with Epidural Methylprednisolone and Midazolam for Relief of Pain Secondary to Herpes Zoster

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Introduction: Postherpetic neuralgia is one of the most common and serious complications of herpes zoster. It is a chronic neuropathic pain syndrome and remains one of the most difficult pain disorders to treat. Pain may persist well after resolution of the rash and can be highly debilitating. Steroids, drugs with potent anti-inflammatory properties on the nerve roots, have been used by epidural route in the treatment of herpetic neuralgia. Midazolam, the only clinically available water soluble benzodiazepine has been reported to have an antinociceptive effect through neuraxial pathways. It has been used epidurally for postoperative analgesia and chronic pain management. Our study is to quantify the efficacy of a single epidural injection of methylprednisolone with midazolam -methylprednisolone combination for the treatment of postherpetic neuralgia.

Methods: Thirty adult ASA I and II patients with severe pain due to herpes zoster of less than 2 months duration were randomly divided (chit-in-a-box technique) into two groups: Group A (N=15): received epidural methylprednisolone (80 mg), diluted to 10 ml normal saline (NS)

Group B (N=15): received epidural methylprednisolone (80 mg) + midazolam (2 mg) diluted to 10 ml normal saline (NS)

Post herpetic neuralgia was assessed as pain and / or allodynia present in the same dermatomes as the original eruption. Pain was assessed before the treatment and one month after treatment using 11 point visual analogue scale (0= no pain to 10= worst pain imaginable) and 5 point verbal rating score (0= no pain to 4= very severe pain). Side effects were also recorded during the study period. Data was compared using t test and $p < 0.05$ was taken as significant.

Result: The two study groups were similar with respect to age, weight, sex, and intensity of pain. We found significantly greater improvement in the intensity of pain and allodynia in methylprednisolone – midazolam group as compared to methylprednisolone group. The use of analgesics declined by 40% decline in group A, and more than 70% in group B after 4 weeks of treatment. No complications related to epidural midazolam were observed.

Discussion: Reactivation of the varicella zoster virus in the dorsal root ganglion results in neural damage. In addition, the inflammatory response causes edema which may increase pressure within fascia leading to impairment of endoneural blood flow and ultimately neural dysfunction. Steroids may inhibit inflammation and minimize swelling induced neural ischemia, thus preventing persistent neural damage. A segmental

analgesic effect from midazolam in the epidural space enhances the anti-inflammatory effects of steroids, leading to better efficacy when the combination is used.

Conclusion: Epidural administration of methylprednisolone and midazolam is a more effective treatment for postherpetic neuralgia than epidural methylprednisolone alone.

References:

Hempenstall K, Nurmikko TJ, Johnson RW, A'Hern RP, Rice AS. Analgesic therapy in postherpetic neuralgia: a quantitative systematic review. *PLoS Med.* 2005 Jul; 2(7):e164.

Gintautas J, Abraham Y, Doss NW, Ghobriel A, Kashem A, Fogler RJ. Lidocaine and methylprednisolone in management of herpes zoster and post-herpetic neuralgia. *Proc West Pharmacol Soc.* 2002; 45:73.