Intrathecal Opioid Trialing Protocol Combining PCA Bolus and Continuous Infusion with an Efficacy/Safety Self-Evaluation Chart. Clinical Experience

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Diego Bashkansky, Diana Ciaffone, Nicolás Barbosa, Fabián Piedimonte.

Fundación CENIT para la Investigación en Neurociencias. Argentina.

Corresponding author: Diego Bashkansky email:dbashkansky@gmail.com

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Abstract

Introduction: Spinal cord injury produces profound motor deficits that remTo describe the clinical utilization of an IT opioid trialing protocol using PCA IT bolus and a continuous infusion and patient self-evaluation chart.

Method: We describe our 13-patient clinical experience using an Intrathecal Opioid trialing Protocol with a portable PCA external pump combining Continuous Infusion + PCA bolus that resembles an implanted pump functionality. A self-evaluation chart allows patients to report side effects and pain ratings, and patient satisfaction is rated. The chart is signed in front of a witness as an agreement to proceed with internal pump implantation.

Discussion: All 13 patients were chronic non-malignant pain patients (5 FBSS, 2 Spinal Cord Injury, 5 Lumbar Spinal Stenosis, 1 Rheumatoid Arthritis) requiring high dose oral opioids with inadequate pain control. Eight patients were female and three males with an average age of 70 yr. (36 – 90 yrs.). Eleven trials lasted three days, one trial was stopped at day two because the patient had urinary incontinence (she had a previous gynecologic surgery that altered her sphincter anatomy) and one patient required an extra day because the need of additional baclofen boluses in trial day and day three for spasticity related pain. All trials had at least 24 hr. of a continuous infusion before ending. Preservative free morphine was used in all trials. Dose requirements were low compared to most bolus doses described in the literature. All positive trials started with a pain rating VAS ≥ 8 and final VAS ≤ 3. Patient satisfaction was Very Satisfied in 7, Moderately Satisfied in 3 and Unsatisfied in 3. No serious side effects were observed. Most common side effects were itching (7 patients), nausea (4 patients) and urinary retention (4 patients).They resolved with dose adjustments by the end of the trial. Three patients required urinary catheterization after the first bolus dose was administered, one of them did not resolve lowering the morphine dose, and the other two recovered spontaneous micturition after dose adjustment. It is important to mention that one female patient that had a previous urinary incontinence surgery suffered intolerable incontinence that required catheter removal. It has been described that low IT morphine doses can increase bladder muscle activity, leading to incontinence when sphincter activity is altered. Three patients did not get a pump implanted. One of them because of unrelated health problems. The other two patients suffered urinary retention requiring intermittent catheterization and it was not possible to get an analgesic response.

Conclusions: Prior to implantation of an internal IT pump, a successful trial is usually required. Consensus recommendation is that until RCT are developed each practitioner should use a trialing protocol based on safety, adherence to safe algorithmic principles, and proper patient monitoring. Described trial methodologies are IT single bolus, IT multiple bolus or IT continuous infusion. No combined methods using PCA boluses and continuous infusion were found in the literature. This 3-day trialing technique provides an opportunity to assess IT opioid response with a safer and reliable methodology. Patient self-involvement and final agreement allows a more objective evaluation and helps decision making for internal pump implant. Even our small sample size does not allow to draw any conclusions, it is remarkable that very low doses were required with minor and reversible side effects with good patient satisfaction.

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