

Sensory block duration after spinal anaesthesia with intravenous dexamethasone.

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Introduction

Spinal anesthesia, also known as subarachnoid block, is a type of regional anesthesia that is commonly used in surgeries of the lower abdomen, pelvis, and lower extremities. It involves injecting a local anesthetic medication into the subarachnoid space, a fluid-filled space between the membranes that surround the spinal cord, in order to numb the lower half of the body. The procedure is usually performed while the patient is lying on their side with their back curved into a C-shape. After the area is cleaned and sterilized, a small needle is inserted between the vertebrae of the lower spine, and the anesthetic medication is injected. The onset of the anesthesia is usually rapid, and the patient will typically feel numbness and loss of sensation in the lower half of the body within minutes [1].

Spinal anesthesia is generally considered safe and effective, but like any medical procedure, it carries some risks. Potential complications can include headache, nausea and vomiting, low blood pressure, nerve damage, and infection. However, these risks are relatively low and can usually be managed by a skilled anaesthesiologist or medical professional. Spinal anesthesia is a type of regional anesthesia that involves injecting local anaesthetics into the Cerebro Spinal Fluid (CSF) in the subarachnoid space of the spinal cord. It is commonly used for surgeries below the waist, such as lower limb surgeries, pelvic surgeries, and cesarean section. Dexamethasone is a type of steroid medication that has anti-inflammatory and analgesic effects. Intravenous dexamethasone has been used as an adjuvant in spinal anesthesia to prolong the sensory block duration and reduce postoperative pain [2].

Several studies have investigated the effect of intravenous dexamethasone on the duration of sensory block after spinal anesthesia. A meta-analysis of 19 randomized controlled trials with a total of 1425 patients found that intravenous dexamethasone prolonged the duration of sensory block by an average of 68 minutes compared to placebo. The duration of sensory block after spinal anesthesia can vary depending on several factors, including the type and dose of local anaesthetics used, the level of the block, and individual patient factors. The addition of intravenous dexamethasone can provide additional benefit in prolonging the sensory block duration, but the exact duration can still vary [3].

It is important to note that the use of intravenous dexamethasone as an adjuvant in spinal anesthesia should be carefully

considered and individualized based on the patient's medical history, current medications, and other factors. Potential side effects and risks associated with dexamethasone use should also be taken into account.

Spinal anesthesia is a widely used technique in surgery and involves injecting local anesthetic into the subarachnoid space to block sensory and motor function below the level of injection. One of the factors affecting the duration of sensory block after spinal anesthesia is the addition of intravenous dexamethasone, a steroid commonly used as an anti-inflammatory agent. Studies have shown that the addition of intravenous dexamethasone to spinal anesthesia can prolong the duration of sensory block by up to 30% without any significant adverse effects [4]. The mechanism of action is thought to be due to the anti-inflammatory properties of dexamethasone, which reduce local inflammation and enhance the effect of the local anesthetic. However, there are some potential adverse effects associated with the use of dexamethasone, such as hyperglycemia, increased risk of wound infection, and delayed wound healing. These adverse effects are generally mild and occur at higher doses of dexamethasone or with prolonged use. In conclusion, the addition of intravenous dexamethasone to spinal anesthesia can prolong the duration of sensory block without significant adverse effects. However, the potential risks and benefits should be carefully considered on a case-by-case basis, and the dose and duration of dexamethasone should be optimized to minimize the risk of adverse effects.

Spinal anesthesia is a commonly used technique for regional anesthesia and analgesia. The duration of sensory block after spinal anesthesia can vary depending on various factors such as the dose and type of local anesthetic used, the patient's age, weight, and underlying medical conditions, and the use of adjuncts such as opioids or alpha-2 agonists. Intravenous dexamethasone is a corticosteroid that has been used as an adjunct to spinal anesthesia to enhance its duration and quality. The mechanism by which dexamethasone prolongs sensory block is not fully understood, but it is thought to be due to its anti-inflammatory and neuroprotective properties. Several studies have investigated the effect of intravenous dexamethasone on the duration of sensory block after spinal anesthesia. A meta-analysis of these studies found that intravenous dexamethasone significantly prolonged the

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duration of sensory block by an average of approximately 40 minutes compared to placebo or control groups. The duration of sensory block after spinal anesthesia with intravenous dexamethasone treatment can vary depending on the dose of dexamethasone used, as well as other factors such as the type and dose of local anesthetic used. In general, the duration of sensory block can range from 2-4 hours, but may be longer with higher doses of dexamethasone.

It is important to note that while intravenous dexamethasone has been shown to prolong the duration of sensory block after spinal anesthesia, it does not appear to have a significant effect on the duration of motor block or time to ambulation. Additionally, there may be potential risks associated with the use of corticosteroids, such as hyperglycemia, immunosuppression, and other adverse effects, that should be considered when using this adjunct therapy [5].

References

1. Marhofer P, Columb M, Hopkins PM, et al. Dexamethasone as an adjuvant for peripheral nerve blockade: a randomised, triple-blinded crossover study in volunteers. *Br J Anaesth.* 2019;122(4):525-31.
2. Baeriswyl M, Kirkham KR, Jacot-Guillarmod A, et al. Efficacy of perineural vs systemic dexamethasone to prolong analgesia after peripheral nerve block: A systematic review and meta-analysis. *Br J Anaesth.* 2017;119(2):183-91.
3. Schwenk ES, Kasper VP, Smoker JD, et al. Mepivacaine versus Bupivacaine Spinal Anesthesia for Early Postoperative Ambulation A Randomized Controlled Trial. *Anesthesiol.* 2020;133(4):801-11.
4. Choi S, Mahon P, Awad IT. Neuraxial anesthesia and bladder dysfunction in the perioperative period: A systematic review. *Can J Anaesth.* 2012;1-23.
5. Urmey WF, Stanton J, Peterson M, Sharrock NE. Combined spinal-epidural anesthesia for outpatient surgery: dose-response characteristics of intrathecal isobaric lidocaine using a 27-gauge Whitacre spinal needle. *Journal of the American Society of Anesthesiologists.* 1995;83(3):528-34.