

A New Era: Awake Spine Surgery and Anesthesia Considerations



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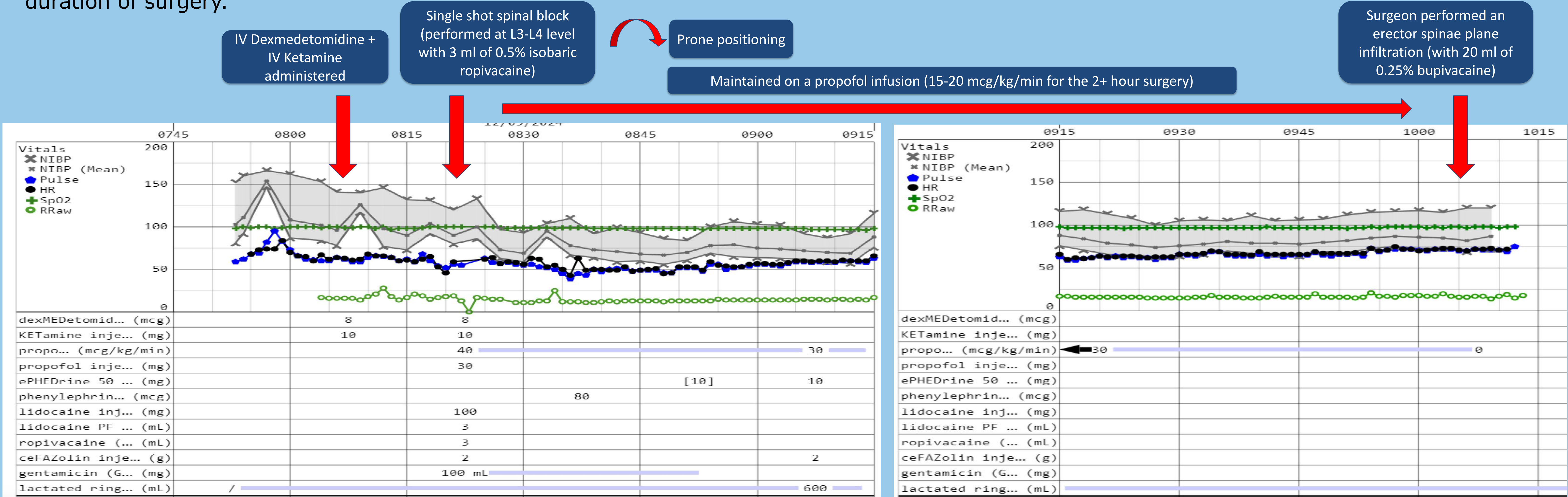
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INTRO:

Over 1.2 million spinal surgeries, including fusion, laminectomy, decompression, discectomy, are performed annually in the US, according to the National Center for Health Statistics (1). Recently, there has been growing interest in minimally invasive awake spinal surgery using spinal anesthesia (SA), which avoids the risks of general anesthesia (GA) and opioids, and offers improved pain control and recovery (2). This relatively under-explored approach has significant potential to enhance patient outcomes and recovery. Our case report details the planning and successful use of SA with monitored anesthesia care (MAC) for an awake lumbar decompression.

METHODS:

- 85 yr old healthy female with worsening symptomatic lumbar spondylolisthesis and stenosis presented for L3-L5 minimally invasive lumbar decompression.
 - Past surgical history: lumbar decompression 30+ yrs ago.
 - Patient requested avoidance of general anesthesia and minimal opioid use due to concern for cognitive and other side effects.
 - Anesthetic plan: spinal anesthesia with ropivacaine, along with multimodal monitor anesthesia care. Patient received no fentanyl or other opioids for the duration of surgery.



- PACU: patient reported minimal pain and discomfort, without nausea, and was discharged home 4 hours later
- Postoperative day 1: patient reported pain was well managed with acetaminophen and low dose gabapentin, without requiring breakthrough oxycodone
- Postoperative day 8: patient stopped gabapentin as she was recovering well and pain-free

DISCUSSION:

SA with MAC presents a compelling alternative to GA for select patients undergoing spine surgery procedures. Our patient served as an appropriate candidate due to several factors: request for awake procedure, tolerance of the prone position, good overall health (ASA 2), patent airway, and the absence of any pre-existing mental health concerns, in addition to relatively short and minimally invasive procedure.

In our case, we used an intermediate-acting ropivacaine for the spinal, carefully dosed to cover the surgical duration, complemented by local anesthesia surgical wound infiltration at the end. This strategy aimed to optimize pain control, minimize opioid reliance, and facilitate earlier patient mobilization and discharge. Alternatives to surgical infiltration would include fascial plane blocks, such as erector spinae and thoracolumbar interfascial plane (3).

Fianni et al highlight perioperative benefits of awake spine surgery, such as shorter hospital stays, lower opioid consumption, and faster time to ambulation, while maintaining importance of careful patient selection and type of surgery (4). Similar benefits were reported by Sykes et al, discussing potential to enhance recovery, reduce healthcare costs, and mitigate side effects associated with GA (5). Further studies are needed to explore optimal spinal dosing, MAC, and regional anesthesia options for best outcomes.

MATERIALS:

Patient informed consent was obtained for submission of a case report. The case report is devoid of patient identifiable information, and therefore IRB-exempt per Columbia University Irving Medical Center policy.

REFERENCES:

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