

AN ANESTHESIA SUGGESTION FOR ENDOSCOPIC LUMBAR SPINE SURGERY

UMA SUGESTÃO DE ANESTESIA PARA CIRURGIA ENDOSCÓPICA DE COLUNA LOMBAR

UNA SUGERENCIA DE ANESTESIA PARA LA CIRUGÍA ENDOSCÓPICA DE LA COLUMNA LUMBAR

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ABSTRACT

Percutaneous endoscopic lumbar discectomy causes less damage to the paravertebral musculature, with preservation of bone structure and rapid recovery. This innovation allows the surgery to be performed on an outpatient basis, due to the faster recovery time. The anesthesia traditionally performed was general anesthesia, and then conscious sedation. The prone position has always been a major challenge for anesthesiologists. In order to avoid any type of respiratory depression, and based on our own experience with obstetric analgesia, we propose to perform an analgesic spinal anesthesia, a technique not yet found for this type of surgery in the world literature. **Level of evidence I; Quality of Evidence A**

Keywords: Anesthesia; Spine; Minimally Invasive Surgical Procedures.

RESUMO

A discectomia lombar endoscópica percutânea promove menos lesão da musculatura paravertebral, preservação da estrutura óssea e rápida recuperação. Essa inovação permite que a cirurgia seja feita em ambulatório, porque a recuperação do paciente é rápida. A anestesia tradicional era anestesia geral e depois a sedação consciente. A posição de pronação sempre foi um grande desafio para os anestesiológicos. No sentido de evitar qualquer tipo de depressão respiratória e com base em experiência própria com analgesia obstétrica, propomos fazer raquianestesia analgésica, técnica ainda não encontrada para este tipo de cirurgia na literatura mundial. **Nível de evidência I; Qualidade da evidência A**

Descritores: Anestesia; Coluna Vertebral; Procedimentos Cirúrgicos Minimamente Invasivos.

RESUMEN

La discectomía lumbar endoscópica percutánea promueve una menor lesión de la musculatura paravertebral, la preservación de la estructura ósea y una rápida recuperación. Esta innovación permite que la cirugía sea ambulatoria, debido a la rápida recuperación del paciente. La anestesia tradicional era la anestesia general y luego la sedación consciente. La posición de decúbito prono siempre ha sido un gran desafío para los anesestesiólogos. Para evitar cualquier tipo de depresión respiratoria y basándonos en nuestra propia experiencia con la analgesia obstétrica, proponemos realizar una raquianestesia analgésica, técnica aún no encontrada para este tipo de cirugía en la literatura mundial. **Nivel de evidencia I; Calidad de evidencia A**

Descriptor: Anestesia; Columna Vertebral; Procedimientos Quirúrgicos Mínimamente Invasivos.

INTRODUCTION

Minimally invasive endoscopic surgery, in its current form, began just over five years ago.¹ The lateral access enabled a smaller lesion to the paravertebral musculature, preservation of the bone musculature, and faster patient recovery. And these characteristics were maintained with both the transforaminal and interlaminar techniques. The use of local anesthesia was the technique of choice in the majority of centers that adopted this technique.²⁻⁴ The participation of the anesthesiologist in this surgical procedure is aimed at providing the patient with comfort and safety, analgesia, participation when requested, and rapid recovery. With these paradigms in mind, we opted to apply, in our patient, a technique that is already known in

obstetrics for obstetric analgesia, with some adaptations that were necessary due to the patient positioning. As this is a new technique, we felt obliged to publish it.

METHODS

Patient: Male, aged 66 years, 83 kg, and without comorbidities. Disc hernia at level L4/L5, with intense pain in the right leg. Anesthetic procedure: Non-invasive routine monitoring, spinal puncture with the patient seated, using a Quincke 27 needle to inject 2 mL of a solution with 0.5% heavy bupivacaine 0.5mL + sufentanil 0.5 mL (25 mcg) + 1 mL distilled water. This mixture is hypobaric in relation to the cerebrospinal fluid. This enables it to be dispersed to the

Study conducted at Hospital Escola of the Ribeirão Preto School of Medicine, Universidade de São Paulo, Ribeirão Preto, SP, Brazil.

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higher parts of the spine, after surgical positioning. We immediately placed the patient in the prone position, with a slight head-down tilt. After just over two minutes, the patient felt a different sensation in the skin of the back and authorized the surgeon to begin the procedure. Surgical act: after 45 minutes, the surgery was started by infiltrating the skin with 1% lidocaine, in the routine way, with marking of the skin, radiological study of the foramen, insertion of the endoscope, and the surgical procedure itself. The surgical act lasted 1 hour and 15 minutes.

Results and discussion: Some details should be highlighted. The patient moved himself from the stretcher to the surgical table, chose the most comfortable position for himself, and did not feel any pain during the skin infiltration.

DISCUSSION

Sedation of patients for endoscopic surgery is aimed at achieving a condition of analgesia/anesthesia that can enable the patient's cooperation during the surgical act, and that can also be quickly reverted at the end of the surgery. The main challenge for the anesthesiologist is to keep the patient cooperative in the moments when neural damage can really be prevented, and in the motor evaluation at the end of the surgery. Often, the level of sedation is very deep, preventing the patient from responding. The Ramsay scale^{5,6} gives the degrees of sedation (1, patient anxious, agitated and restless, or both; 2, patient co-operative, oriented and tranquil; 3, Patient

responds to commands only; 4, Patient exhibits brisk response to glabellar tap or loud auditory stimulus; 5, Patient exhibits sluggish response to light glabellar tap or loud auditory stimulus; 6, Patient exhibits no response). It is difficult to maintain grade 3 sedation at key points in the surgery. Therefore, we opted for an analgesic spine anesthesia, which does not necessarily require sedation but can be supplemented with continuous dexmedetomidine infusion, an Alpha-2 stimulant that promotes sedation and analgesia, without causing respiratory depression.

The patient, subject of this publication, when asked about his level of satisfaction on a scale of 0 to 10, gave a score of 10, and was discharged to home three hours after the surgery.

The case presented here will be, without doubt, a principle for safe, comfortable analgesia for the patient. A prospective study will clarify many points, and will certainly show the pros and cons of the use of this technique in outpatient anesthesia.

CONCLUSION

Analgesic spine anesthesia was perfectly adequate for endoscopic surgery to the lumbar spine, enabling intraoperative participation of the patient and promoting his comfort.

All authors declare no potential conflict of interest related to this article.

CONTRIBUTIONS OF THE AUTHORS: Each author made significant individual contributions to this manuscript. JA and HRTC were the main contributors to the writing of the manuscript and bibliographic research. ETU, JPB and ACS performed the surgery, followed up the patients and collected clinical data. JA revised the manuscript and contributed to the intellectual concept of the study.

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