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Case report

Airway rescue in the prone position with laryngeal mask airway in a case of lumbar spinal stenosis undergoing percutaneous posterior decompression using an inter-spinous spacer device☆

Vijay Kumar[a,*], *Raman Raina*[b]

[a] *Specialist Anaesthetist, Mackay Base Hospital, Mackay, Australia*
[b] *Anaesthetist, Indraprastha Apollo Hospitals, New Delhi, India*

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ABSTRACT

A patient suffering from low backache was electively posted under local anaesthesia by the surgeon for insertion of percutaneous inter-spinous spacer in lumbar spine in prone position. In the middle of surgery, the patient developed severe pain and was unable to keep still requiring general anaesthesia to complete the operation. We successfully inserted classic laryngeal mask airway in the prone position and the operation was completed uneventfully.

Rescate de la vía aérea en posición prona con máscara laríngea en casos de estenosis de la columna lumbar y descompresión percutánea posterior por medio de un espaciador interespinoso

Palabras clave:
Máscara laríngea
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Estenosis de la columna lumbar
Descompresión de las vértebras lumbares
Dolor lumbar

RESUMEN

Se programa a un paciente afectado por dolor lumbar para la inserción percutánea electiva de un espaciador interespinoso bajo anestesia local en posición prona. A la mitad de la cirugía el paciente presentó dolor severo que le impidió mantenerse quieto, con lo cual fue necesario utilizar anestesia general para terminar la operación. Pudimos insertar con éxito una vía aérea con máscara laríngea clásica en posición prona y la cirugía se llevó a buen término sin problemas.

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* *Corresponding author at*: Department of Anaesthesia, Mackay Base Hospital, Mackay, 4740 QLD, Australia.
E-mail address: kumarvk42@hotmail.com (V. Kumar).

Introduction

Spinal decompression using percutaneous inter-spinous spacer device is relatively a new but simpler and minimally invasive therapeutic alternative technique for the management of patients with dynamic lumbar spinal stenosis, discogenic/arthrogenic back pain and neurogenic intermittent claudication. It is done in prone position with slight flexion, under local anaesthesia (LA) with or without intravenous sedation.

The routine general anaesthetic management of patients for spine surgery consists of induction of general anaesthesia (GA) and endotracheal intubation done in supine position and later turning the patient to prone position before surgery. We were in a situation in which patient required a GA in the middle of operation after failed LA in prone position. We circumvented the problem associated with turning the patient supine by placing classic laryngeal mask airway (LMA) in prone position to maintain the airway for GA.

Case report

A 51-year-old male was electively posted for lumbar percutaneous inter-spinous spacer decompression to be done by the surgeon under LA in prone position. The patient was ASA grade 1 and mildly obese with a body mass index of 30.48 (weight 82 kg, height 164 cm). During the procedure the patient developed severe pain despite supplementation of LA with Midazolam 2 mg and Tramadol 100 mg by the surgeon. The patient became rather hypersensitive to even touch at surgical site and would not keep still or allow surgery to proceed. He begged for general anaesthesia. The surgeon then called the anaesthetist for help. At this stage the options considered were (1) endotracheal intubation under GA using laryngoscope, (2) an awake fibreoptic intubation, (3) GA with face mask, (4) LMA placement in prone position under GA and lastly (5) abandoning the procedure now and to do it electively next day under GA. After considering all of them it was decided to induce GA and use LMA keeping the patient in same position as the quickest and most reasonable option. After adequate preoxygenation on face mask, anaesthesia was induced with intravenous Fentanyl 100 μg and Propofol 200 mg. A classic LMA size 4.0 was inserted without difficulty (Figs. 1 and 2). After confirming correct placement with manual ventilation, Atracurium 20 mg i.v. was given. Anaesthesia was maintained with sevoflurane in oxygen-nitrous oxide and intermittent positive pressure ventilation given using closed circle system at fresh gas flow of 0.8 l/min. Tidal volume was kept at 500 ml maintaining a peak airway pressure <20 cm H_2O. The observed peak airway pressure was 16 cm of H_2O and SPO_2 100%. The surgery lasted for another 30 min and LMA was removed after neuromuscular block reversal in supine position. The patient's condition remained satisfactory postoperatively.

Fig. 1 – LMA being inserted.

Fig. 2 – LMA insertion completed.

Discussion

There have been a number of studies establishing the safety and reliability of electively placing an LMA in prone position.[1–3] We found 3 case reports of emergency LMA placement intraoperatively due to accidental extubation of endotracheal tube[4–6] and 1 case of prone LMA placement in a patient with penetrating cervical spine injury.[7] We had a different situation as the patient was required to be anaesthetised after an inadequate local anaesthesia and sedation in the middle of surgery. The patient was in severe pain and restless state and required a quick but safe anaesthesia. Turning the patient supine for induction of general anaesthesia at this stage could have led to nerve injury and soiling of instruments. Moreover, infection of the surgical wound was another possibility if the patient was turned first supine and then prone again during an emergency. It would have taken some more time before adequate manpower was arranged and preparation for turning the patient supine was done. Therefore, while the preparation for a possible induction in supine position was being done, we decided to put an LMA which was done with ease.

LMA has been a major advance in airway management. With increasing experience it may be used in a variety of situations where previously endotracheal intubation was the only reasonable option. The LMA is quite useful adjunct in

securing an airway in emergency even when the patient is in prone position.

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Conflicts of interest

The authors declare not to have any conflicts of interest.

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