

Case Report

Volume 3 Issue 5 - September 2017
DOI: 10.19080/JAICM.2017.03.555625

J Anest & Inten Care Med

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Total Spinal Blockage after Spinal Anaesthesia for Perianal Fistula



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Submission: September 08, 2017; **Published:** September 22, 2017

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Abstract

Total spinal block is one of the rare complications of regional anaesthesia. It can occur after spinal, epidural or nerve plexus block. Early detection and treatment is essential to prevent mortality. We report a case of total spinal block occurring in a man with perianal fistula after receiving uneventful spinal anaesthesia for caesarean section treated successfully with prompt cardiovascular resuscitation and general anaesthesia.

Introduction

Spinal anaesthesia is being increasingly used as a mode of anaesthesia for performing treatment for perianal fistula [1]. Although it is a safe and effective means of giving anaesthesia, at times it can lead to complications like hypotension, shivering, respiratory distress, unconsciousness, etc [2]. Total spinal block is a rare complication of spinal anaesthesia. It is a life-threatening complication presenting with symptoms of unconsciousness, hypotension, bradycardia and respiratory failure [3]. \

We report a case of total spinal block occurring in a young man after receiving uneventful spinal anaesthesia for perianal treatment. The patient was successfully treated with prompt cardiovascular resuscitation and general anaesthesia.

Case Description

We report a case of a 33-year-old man, ASA 1 admitted for treatment of perianal fistula that has evolved since 3 years.

In surgical history, he was operated two times for perianal abscess, first time in 2012, and second time one year ago, the two operations were made under general anaesthesia without any intraoperative complications. No history of any medical illness or allergy.

On pre-anesthetic examination patient was in good general condition with weight of 88 kg, height 1.80 m, and body mass index of 27.16 kg/m². Respiratory and cardiovascular

examination were unremarkable. Patient had thoracolumbar scoliosis since the age of 18 years.

Laboratory tests include: hemoglobin: 10.8 gm%, platelets count: 2.36 x 10⁵/mm³, glucose: 0.81 mmol/L, blood group: O negative.

Patient was explained about the procedure of spinal anaesthesia. During induction, patient was placed in lateral decubitus, with standard hemodynamic monitoring. At induction his hemodynamic condition was stable (blood pressure: 120 / 80 mmHg, pulse rate: 75b / min, SPO₂: 100%). Intravenous access was taken in the peripheral vein of both arms with 18 G vein flow needle and prefilled with 750 ml of 0.9% normal saline. Classic single shot spinal anaesthesia was given with 27G spinal needle in the first attempt level of block. Slow injection of 0.8mg of 0.5% isobaric bupivacaine + fentanyl 20µg was given. His blood pressure and pulse rate were monitored every 2 minutes. After 4 minutes of spinal anaesthesia, and before anal dilatation, patient started experiencing respiratory discomfort, nausea and vomiting. There was a sudden fall in blood pressure (BP) to 60/30 mmHg and desaturation (SPO₂: 70%) with pulse of 70b / min. Patient became unconscious. There was bilateral nystagmus, and mydriasis on pupil examination. Subsequently patient became dyspneic followed by apnea. Hence ephedrine was administered intravenously 9 mg bolus every 2 minutes along with mask ventilation with 100% pure oxygen.

The hemodynamics further worsened to unrecordable BP and SpO₂ (oxygen saturation) between 60-70% despite mask ventilation. As patient failed to respond to any medication, we went ahead with rapid induction (drugs used: 300mg pentothal + 300mg gamma fentanyl + 50mg rocuronium) and orotracheal intubation. After intubation, SpO₂ improved to 80-90%. But hemodynamics continued to remain unstable (systolic BP: 50-80mmHg, pulse rate: 120b / min). Repeated adrenaline injections (0.2mg / every 05min) were given along with intraoperative volume replacement rate of 2.5 macromolecules litre. Throughout the duration of resuscitation, pulmonary auscultation was normal without any evidence of bronchospasm. The diagnosis of complete spinal block was made.

After 120 minutes of continued hemodynamic and respiratory support, improvement in the hemodynamic state and respiration was noted (BP: 80-120 / 30-50mmHg, heart rate: 100-120 b / min, SPO₂ 90-95%)

As the hemodynamics stabilized with signs of respiratory efforts, we gradually withdrew vasoactive narcotic drugs. After 5 hours of spinal anesthesia, there was regain of consciousness with spontaneous breathing efforts. Patient kept under artificial assisted controlled intermittent ventilation and pressure support for two hours and then extubated.

Subsequently, pure oxygen was administered through the nose for 05 hours and analgesic medications were given for pain relief. Patient was discharged on postoperative day 3 without any neurological or clinical sequelae. Patient was advised to avoid spinal anesthesia in future.

Discussion

Spinal anaesthesia is one of the preferred procedures for proctology as it is safe, effective and provides good postoperative analgesia [4]. Cardio-respiratory failure after spinal anaesthesia

for perianal fistula is rare. It can occur due to total spinal block, anaphylactic reaction to anesthetic drugs, etc. In the present case, since there was cardio-respiratory failure followed by unconsciousness, total or high spinal blockage was suspected. But considering the fact that the procedure of spinal anesthesia was uneventful and the drugs were used in the routine doses, the cause of total spinal block could not be ascertained.

Total spinal block has been reported after epidural test dose [5], lumbar plexus block [2], etc. It occurs because of various technical reasons like use of higher dose of anesthetics, accidental subdural puncture, rapid change of posture, etc. Thoracolumbar scoliosis may have acted as an indirect risk factor for development of total spinal anesthesia.

Conclusion

To conclude, total spinal block is a rare complication which should be kept in mind while monitoring patient after spinal anaesthesia. Immediate resuscitation with intravenous fluids, inotropic and respiratory support can help tide over the acute crisis.

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DOI: [10.19080/JAICM.2017.03.555625](https://doi.org/10.19080/JAICM.2017.03.555625)

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