

Complete Spinal Block about a Case

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Abstract

The incidence of serious accidents associated with neuraxial regional anesthesia is very low.

A total spinal classically expressed by a major arterial hypotension, apnea and loss of consciousness and cardiac arrest. (The report of Hawkins., et al. on maternal mortality in the United States shows that the death rate related to the ALR is 1.9 deaths per one million cesareans, In obstetrics, the situation appears different because Hawkins., et al. reported that of the 33 reported deaths, two occurred after cardiac arrest, 12 after a sensorimotor level high and 17 have been linked to the systemic toxicity of local anesthetics).

In these circumstances, the management of patients an adequate posture (left lateral decubitus), an oxygen mask and airway control by emergency intubation if necessary, the volume expansion and vasopressors.

If persistent collapse despite maternal resuscitation, Caesarean section should be very fast because fetal extraction involved in maternal rescue.

Keywords: Total Spinal Anesthesia; Neurological Block; Cesarean; Single Shot Spinal Anesthesia

Abbreviations

TA: Blood Pressure; FC: 100b/min.; Heart Rate; BCF: A Good Regular 130b/min: Fetal Heartbeat; Hb: Hemoglobin; TP: Prothrombin; TCK: Rate Partial Thromboplastin; PAM 120/80mmHg: Arterial Mean Pressure; SPO₂: Oxygen Saturation

Introduction

We report the case of a woman in labor 33 years old, pregnancy 2 parturient 0, ASA 1 pregnancy 40 weeks gestation admitted for elective caesarean section on a contracted pelvis.

In surgical history, the pregnant woman has benefited from a cesarean section in 2011; fetal macrosomia (4150gr) made under spinal anesthesia with intraoperative notion of undocumented incident.

No medical concept and no allergy.

Pre anesthetic examination finds: a patient in good general condition, Body mass index, BMI: 31.3 kg/m², (Weight: 80 kg, Size: 1.60m).

Pulmonary pleural examination and cardiovascular unremarkable, TA: 120/80 mmHg, FC: 100 b/min. Mallampati 1.

The review found a lumbar spine scoliosis dorso pronounced at the age of 18 years.

Fetal heartbeat: A good regular 130b/min.

Laboratory tests include: Hb: 10.8, platelets 236100, glucose: 0.81, TP: 100%, TCK: 30s, renal correct balance, Grouping O-.

In total there is a ASA1 patient carries a thoracolumbar scoliosis, scheduled for a cesarean section on a contracted pelvis, in whom the indication of a type of spinal regional anesthesia was asked.

In the operating room

- Psychological preparation, patient was installed in lateral decubitus of security, with standard monitoring, hemodynamic condition was stable (PAM 120/80mmgh, FC: 75b/min, SPO₂: 100%), bladder poll.
- peripheral vein both arms .18 G.
- Oxygenation (oxygen window).
- Prefill 750SSI a 0.9%.

Patient has any stress:

- Locating Tuffier line in a sitting position with off the skin disinfection.
- Classic single shot spinal anesthesia started, made easy gently from cerebrospinal fluid at the first attempt with 27G needle tip pencil.
- Slow injection of 08 mg of 0.5% isobaric bupivacaine + fentanyl 20 gamma.
- Return to the starting position of LDS.
- Her blood pressure and pulse rate were monitored every 2 min.

Mar: 04 min after injection, significant change, brutal and fast clinical, hemodynamic and respiratory and surprising chronological installation of:

- Respiratory discomfort sensation.
- Nausea and vomiting.
- Difficulty spoke.
- TA: 60/30, FC: 70b/min.
- Frank desaturation: 70%.
- Loss of consciousness, nystagmus, bilateral mydriasis are actives.
- Apparition anesthesia, paresthesia of the upper limbs.
- Dyspnea, bradypnea apnea.

Hence the administration of ephedrine direct intravenous iterative 9 mg bolus every 2 minutes, + mask ventilation was 100% pure oxygen, parallel to the correction of these problems, a caesarean made emergency 03 minutes after extraction a newborn in cyanotic bradycardia, entrusted to pediatricians who revived with pacifiers.

After fetal extraction, worsening hemodynamics: TA impregnable, SPO₂ (oxygen saturation) varied between 60 - 70%, with mask ventilation.

Before the rebel persistence of this situation for 5 to 10 minutes despite the administration of adrenaline, we go to general anesthesia + orotracheal intubation fast (drugs used: 300 mg pentothal + 300 gamma fentanyl+ 50 rocuronium) with infusion intralipid 20% by direct intravenous.

Manual ventilation with pure oxygen through the endotracheal tube allowed better saturation SPO_2 : 80.90%.

Persistence hemodynamic status and unstable breathing (blood pressure varies between systolic 50 - 80 mmgh, FC: 120 b/min) for about 60 minute.

Repeated adrenaline injection prosecution and iterative 0.2 mg/05mn. + intraoperative volume replacement rate of 2.5 macromolecules litre throughout general anesthesia).

The diagnosis of a total spinal anesthesia was raised, has nearly 01 hours after spinal anesthesia.

The patient with FiO_2 VAC power is 100%.

Adrenaline with syringe pump.

Neuro-sedation pentothal.

Periodic bronchial aspiration.

After 120 minutes of spinal anesthesia, early return from a hemodynamic state and respiratory stability (blood pressure varied between 80, 120/30.50 mmgh, heart rate: 100 - 120 b/min, SPO_2 90.95%).

Throughout the duration of resuscitation, pulmonary auscultation was normal, do not include bronchospasm or significant resistance.

Hemodynamic state stability and breathing persists, then decides the gradual withdrawal of vasoactives narcotic drugs.

05 hours after spinal anesthesia, gradual return revival sign (eye opening to the call, with spontaneous breathing fight against endotracheal tube) the patient kept under artificial assisted ventilation controlled intermittent + PS for 02 hours and then extubation.

Poor quality alarm clock put in pure oxygen through the nose for 05 hours and analgesic.

SPO_2 A 100% on room air 14 hours after the incident.

Parturient output postoperative day 3 without neurological or clinical sequelae.

Against a given spinal anesthesia anesthetic Recommendation states later.

Discussion

In the literature: Complete spinal anesthesia is not well defined in the literature.

The incidence of total spinal anesthesia: 1/100000 has 27/100000 [1-3].

About our case Patient ASA 1 without any noticeable pathological ACTD which presents immediately after spinal anesthesia, the following signs: Extension of the motor and sensory block; paresthesia at the superieus membranes.

Of severe hemodynamic disorders: severe hypotension by sympathetic blockade extended.

Respiratory troubles: Frank desaturation, apnea bradypnea and by achieving the phrenic roots and especially by achieving the bulbar order.

Neurological disorders: Loss of consciousness Central toxicity of local anesthetic and mydriasis reached by cranial nerves. These signs should make us think about the total spinal anesthesia.

In our patient saw the presence of apnea and collapse the anesthetic level should be more than C4 (dissemination and ventricular intracerebroventricular passage bupivacaine).

There was no severe bradycardia probably due to pregnancy or tachycardiac and effect given vasopressors.

Failure occurred in cardiac arrest is linked probably that this is not a systemic toxicity of isobaric bupivacaine.

The Patient was kept intubated ventilated and under normothermic vasopressors amines in order to maintain blood pressure in strictly normal values until disappearance of the effects of the anesthetic block,

Getting started driving tuning atenir is the one recommended by the literature.

The Dose: 08 mg bupivacaine, was not excessive enough to cause total spinal anesthesia.

The baricity: we should have can be used hyperbaric bupivacaine better to master the anesthetic block and minimize extension.

The Immediate return of the patient decubitus lateral of security position just after our spinal anesthesia can be performed as increased cephalic expansion factor of the block.

The Pregnancy, caval syndrome, and the reduction of spaces under arachnoid and epidural and increased intra-abdominal pressure reducing the volume of cerebrospinal fluid are probably overriding factors in the occurrence of total spinal anesthesia.

The Patient did not receive epidural anesthetic supplemented by a secondary spinal anesthesia that which removes this eventuality.

The thoracolumbar scoliosis is not caused by us against technical difficulties can be an indirect risk factor in the onset of total spinal anesthesia.

The injection site was observed respecting the line of Tuffier, it has not tried to punctuate above.

Orientation the bevel of the needle slightly influencer cephalic could block the extension.

The injection speed was slow, step aside the eventuality of participation this factor in our case.

It is believed that pregnancy and the thoracolumbar scoliosis and the immediate return to decubitus lateral of security position, the beings can main factors participant rapid extension of the block.

A recent study utilizing IRM Nuclear demonstrated that there is great variability in the lumbosacral cerebrospinal fluid volume (28 - 81 ml in 10 healthy volunteer population) and this volume is a determinant of the extent and duration of the spinal anesthesia. However, this volume is not related to the other anthropometric measures and can therefore not considered beings from physical examination [4,5].

- Remember that drug factors, patient factors & technique factors contribute to the risk of complete spinal block
- Remember that management is supportive and may include induction of general anaesthesia and intubation
- Remember that early identification of symptoms & signs is vital

Conclusion

The relative ease with the completion of a spinal anesthesia led to lower vigilance in monitoring its opening the door to potentially serious or dramatic complications.

Spinal anesthesia extended or total is unpredictable incident despite practicing a rigorous technique.

Knowing is not neglecting the spinal anesthesia and complications regardless of the number performed.

Vigilance and monitoring are always surprises.

Learn to master stress to the situation.

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