Breakneck Bradycardia Pursuant to Spinal Anesthesia: A Report of Two Cases

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Abstract

Abruptly bradycardia is one of the uncommon but fatal complication of spinal anesthesia and may occur at any stage. Lethal complications during spinal anesthesia can occur in patients without problem in their respiratory or cardiovascular system.

In this article, we present 2 cases with knee arthroscopy and pilonidal sinus excision that complicated with breakneck bradycardia follow to spinal anesthesia. In both two cases there was no problem with ventilation or respiratory system and they have taken 1 litter of ringer solution 30 min before procedure. We concluded that must not only take closer care with patients undergoing S.A. at the operation room but also the duration of recovery room.

Keywords: Brady cardia; Spinal anesthesia; Bupivacaine

Introduction

Though haemodynamic changes due to spinal anesthesia (S.A) are noticeable but its favorable relaxation and analgesia is a advantage for using it as a common methods of anesthesia and the side effects are fewer compared to general anesthesia [1].

Abruptly bradycardia is one of the uncommon but fatal complication of S.A and may occur at any time of approach [2].

The incidence of bradycardia and cardiac arrest in S.A is more common than regional anesthesia (R.A) method [3].

Fatal complications during spinal anesthesia can occur in patients without problem in their respiratory or cardiovascular system [4].

Some complications happen in healthy young adult during S.A. We are interested to know whether these complications are predictable or avoidable [5].

Bradycardia during anesthesia is common and may lead to cardiac arrest or death. Amount of heavy local anesthetic and level of blockage or two risk factors for hypotension and bradycardia during anesthesia [6].

In a study, was been showed add the epinephrine to local anesthetic agents could not prevent cardiovascular complication during spinal anesthesia significantly [7].

Bradycardia during S.A is determined as a heart rate of less than 50 bpm with risk factors for bradycardia or parasympathetic over activity during S.A seems to be at increased risk for cardiac arrest during S.A. severe bradycardia (Pulse of 20-40 bpm) has often been implied cardiac arrest during S.A. [8].

In orthopedic surgeries, hemodynamic collapse could have occurred at the moment of periosteum manipulation and leads to sudden fall in heart rate [9].

Case Presentation 1

A 35 years- old man who was scheduled for knee arthroscopy. There was no abnormality in clinical tests or physical exams and past medical history. He was located in ASA-I, the method had explained for the patient and he was agreed with that. The approach accomplished at the L₂-L₃ level with 0.75mg bupivacaine (1.5cc of 0.5% solution) and tested the level of anesthesia that was on L₂ level. The patient was quite comfort and calm in supine position. The EKG monitoring had established. The blood pressure was 110/80 mmHg and pulse rate 73 bpm. After 45 minutes the patient became pale severely and his pulse rate fall down to 26 bpm coincidently. These events happened rapidly. Injection of atropine (1 mg) was effective. There was no especial problem follow to spinal anesthesia.

Case Presentation 2

A 27 years old man who had selected for excision of pilonidal sinus. The primary blood pressure was 120/80 mmHg with a pulse rate of 78 bpm in prone position. He was located in ASA-I, spinal anesthesia achieved at L₁-L₂ level with 75 mg lidocaine (1.5 cc of 5% solution) and tested the level of anesthesia that was on L₁ level. The patient was located in ASA-I, spinal anesthesia achieved at L₁-L₂ level with 75 mg lidocaine (1.5 cc of 5% solution) and tested the level of anesthesia that was on L₁, level. ECG monitoring established. Bradycardia occurred after 25 minutes (38 bpm) with nausea and treated by prompt administration of atropine. In both two cases there was no any problem with ventilation or respiratory system and they have taken 1 litter of ringer solution 30 min before procedure.

Conclusion

Although bradycardia is predictable subsequent to spinal anesthesia (S.A) most often at the first 20 minutes, it hardly suggestion that must be care in all duration of surgery and PACU.

In spite of good ventilation, pre hydration, level of anesthesia or...
any co-existing disease, bradycardia after S.A is a hazard. There is no difference according to age, type of local anaesthetic drugs, level of approach and operation

Although the common reasons of brady cardia during spinal anesthesia are include block of sympathetic, surgical manipulation, co-exist disease and etc , we could find any of these reasons for brady cardia , We decide to report two cases .

We must not only take closer care with patient s undergoing S.A , at the operation room but also the duration of recovery room .

References