

An unexpected cause of intraoperative tachycardia - a case report

Abstract

A 45year old man was scheduled for emergency reduction of open fracture of right tibia. He developed intraoperative tachycardia, for which no clear systemic cause could be identified. The patient had developed anxiety on seeing his blood being suctioned out, and the tachycardia resolved with sedation and by removing the suction catheter from the patient's line of vision.

Keywords: intraoperative, tachycardia, anxiety

Volume 2 Issue 2 - 2015

Wesley Rajaleelan, Rosen Roy Mathew, Balaji Kuppuswamy

Christian Medical College and Hospital, India

Correspondence: Wesley Rajaleelan, Christian Medical College and Hospital, Vellore, India, Tel +919643695709, Email wesleyrajaleelan@gmail.com

Received: March 09, 2015 | **Published:** March 24, 2015

Introduction

Tachycardia during surgery is a common event. The importance of intraoperative tachycardia is determined by blood pressure and cardiac rhythm at that time. Clinically significant tachycardia ultimately results in poor outcome.¹ The problem is usually recognized and resolved in most of the cases. However in some instances the problem tends to fall out of the reach of the experience of the anaesthesiologist and the cause of tachycardia may be obscure and rare or associated with an unusual phenomenon. We would like to report an unexpected cause of tachycardia during the intraoperative period.

Case history

A 45year old man had sustained open fracture of his right tibia and was scheduled for emergency open reduction and fixation. There were no other significant injuries. His past medical and surgical history was unremarkable. On examination his pulse rate was around 90 to 100 per minute and his blood pressure was 110/80mm of Hg. His capillary refill was less than 2seconds. His blood loss was also minimal. The baseline investigations were within normal limits. Since it was an emergency procedure, we did not pre-medicate the patient.

After informed consent the patient was shifted to the operating table. He was continuously monitored with pulse oximetry, electro cardiograph and non invasive blood pressure. Under sterile precautions, spinal anaesthesia was performed with 3ml of 0.5% Bupivacaine and 25mcg Fentanyl. The sensory block was up to T8 level. The heart rate decreased to around 80 per minute and there was no significant decrease in blood pressure. After proper positioning and covering the patient with adequate warming blankets, the surgeons were allowed to proceed with the surgery.

The initial hour of surgery was unremarkable. An hour into surgery, he suddenly developed sinus tachycardia. The heart rate increased to about 110 to 120 per minute, without any significant change in blood pressure. We started looking systematically for the common possible causes of intraoperative tachycardia (Figure 1) such as pain, hypoxia, hypercarbia and hypovolemia. However, we were not able to find any systemic causes which could account for the sudden rise in heart rate. The patient was normothermic, did not complain of pain and the blood loss was also not considerable.

On questioning the patient, we realized that the suction catheter pipe draining from the surgical field had been placed over the partition screen in the patient's direct line of sight. He was able to see the blood flowing through the suction tube and had become very anxious to see his blood draining out. This provocation had caused the psychological disturbance that had led to the tachycardia. Realizing this, we covered the suction drain with another sterile cloth and sedated the patient with intravenous Midazolam 0.1mg/kg. The tachycardia settled down dramatically with the heart rate decreasing to less than 90 per minute. The surgical course was unremarkable after that and the patient was very comfortable throughout (Figure 2).

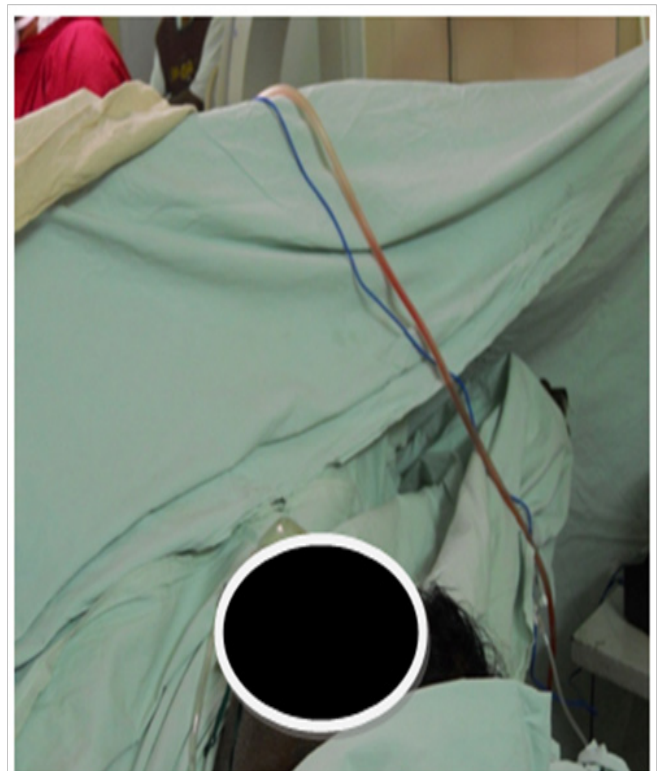


Figure 1 Intraoperative tachycardia.



Figure 2 Solution to intraoperative tachycardia.

Discussion

From this incident, we were able to realize that commonly occurring non systemic events can cause intraoperative anxiety in the patient. Some of the causes could be the patient witnessing the surgery from the monitor, the noise produced by the drilling equipments and electrical instruments, unwanted disturbing conversation at the patient's head end and blood soaked mops being displayed at the patient sight. These can provoke anxiety in the patient, leading to tachycardia or other symptoms of autonomic arousal, leading to

fruitless searches for systemic causes of the same.

Conclusion

Anxiety is a common but poorly recognized intraoperative condition. Post-traumatic stress disorder has been described post-surgically in patients who have had periods of awareness during surgery.² Intra-operative anxiety can be managed by providing a calm atmosphere for the patient and by removing anxiety provoking stimuli from the patient's immediate vicinity. Sedation can also be a valuable adjunct to regional anesthesia, by minimizing anxiety and discomfort during the operative period.³

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.

References

1. Watterson LM, Morris RW, Williamson JA, et al. Crisis management during anaesthesia: tachycardia. *Qual Saf Health Care*. 2005;14(3): e10.
2. Aceto P, Perilli V, Lai C, et al. Update on post-traumatic stress syndrome after anesthesia. *Eur Rev Med Pharmacol Sci*. 2013;17(13): 1730–1737.
3. Lee JJ, Lee JH. Middle-ear surgery under sedation: comparison of midazolam alone or midazolam with remifentanyl. *J Laryngol Otol*. 2011;125(6): 561–566.