International Journal of Medical Anesthesiology

E-ISSN: 2664-3774
P-ISSN: 2664-3766
www.anesthesiologypaper.com
IJMA 2022; 5(1): 24-26
Received: 19-10-2021
Accepted: 26-11-2021

Dr. Saranya N
Post Graduate Student
Department of Anaesthesiology,
Mahatma Gandhi Medical
College and Research Institute,
Sri Balaji Vidyapeeth,
Puducherry, India

Parthasarathy S
Professor, Department of
Anaesthesiology, Mahatma
Gandhi Medical College and
Research Institute,
Sri Balaji Vidyapeeth,
Puducherry, India

Corresponding Author:
Parthasarathy S
Professor Department of
Anaesthesiology, Mahatma
Gandhi Medical College and
Research Institute,
Sri Balaji Vidyapeeth,
Puducherry, India

Anaesthetic management for an emergency obstructive femoral hernia repair with dynamic ischemic ECG changes: A case report

Dr. Saranya N and Parthasarathy S

DOI: https://doi.org/10.33545/26643766.2022.v5.i1a.338

Abstract
Obstruction in femoral hernias occurs more frequently than expected. Preoperative coronary syndromes present additional challenges in their anaesthetic management. Here is an example of such a case A 60-year-old female with a BMI of 23.3 presented to us with an obstructed femoral hernia that had developed over the course of one day. There were no comorbidities in her case. Her heart rate was 110 beats per minute, and her blood pressure was 120/70 millimetres of mercury. The ECG showed signs of acute coronary syndrome. The cardiologists advised coronary intervention but postponed it in favour of urgency of the surgical procedure. We used a combined spinal epidural with intrathecal narcotics since this patient was completely asymptomatic with stable hemodynamics. The gangrene gut was resected, and the mesh repair was done. The procedure went smoothly. The repeat ECG was comparable to the preoperative one with normal quantitative troponin tests in the post-operative period. The potassium level was 2.7 meq which was corrected. The ECG became normal after 5 days. We hypothesise that the ECG changes were caused by inexplicit hypokalaemia. We report this case due to the extreme rarity of a strangulated femoral hernia with ACS-like ECG changes that later resolved.

Keywords: Anesthesia, hernia, acute coronary syndrome, regional

Introduction
Groin hernias include inguinal, femoral, and obturator hernias. While inguinal types are the most common, femoral and obturator sites rank second and third in terms of frequency. In a routine clinical setting, femoral hernias are most commonly associated with obstruction or gangrene [1]. We present a case of an obstructed femoral hernia with gangrene gut and ECG changes suggestive of acute coronary syndrome. A 60-year-old female with a BMI of 23.3 presented to us with a one-day obstructed femoral hernia. She didn't have any comorbidities. Her pulse rate was 110 beats per minute, and her blood pressure was 120/70 mm Hg. Except for a mild leucocytosis, her routine investigations, including electrolytes, were normal. The blood gas analysis was normal. The ECG was diagnostic of acute coronary syndrome (ACS). (Fig. 1) An urgent cardiology consultation recommended ECHO heart and quantitative troponin tests, both of which were normal. They suggested for a further work up after the surgery. After a complete explanation of the risks of surgery, peripheral and central intravenous access were obtained. The right radial artery was cannulated for invasive monitoring. Because the haemodynamics were very stable, a combined spinal epidural anaesthesia (CSEA) was administered. As it was diagnosed as a case of possible strangulation, there was little time for any further work up. The intrathecal drug administered was 3 ml of 0.5% hyperbaric bupivacaine with 25 µg of fentanyl. T6 was the sensory level. A few mild hypotensive episodes were treated with 6 mg ephedrine shots. The heart rate remained constant between 65 to 75 beats per minute as the heart rate was stable, phenylephrine was not considered. There was a small 2-inch gangrene of the small gut which was resected and anastomosis was done along with repair of the hernia. The operation lasted 120 minutes. After 100 minutes, an epidural top-up of 12 ml of 0.5 percent bupivacaine and 3 mg of morphine was administered. Throughout the procedure, oxygen was supplemented. The immediate post-operative ECG remained unchanged, as did troponin, but potassium decreased from 3.5 to 2.8 meq/l on day two. Potassium supplements were given, and the potassium level in the repeat test returned to normal.

On day 4, the repeat ECG (fig 2) returned to normal, as did the quantitative troponin levels. As a result, we assumed that the cause of the ECG changes was hypokalemia, which was most likely an intracellular manifestation with normal serum levels. In patients with ischemic heart disease, Hegde *et al.* [2] emphasised the importance of taking a history as well as performing a thorough physical examination. Our patient was not a known case, the history and physical examination being inconclusive. In patients with intestinal obstruction, an epidural catheter with controlled general anaesthesia is ideal [3], but we opted for CSEA because of the absence of any significant medical history or clinical findings. The patient reported that she could climb two stairs with ease two days prior to admission. The authors preferred CSEA to other techniques keeping in mind the need for adequate muscle relaxation and definitive action. Yadav *et al.* [4] have described a case of obstructed umbilical hernia managed with controlled GA. Stable induction and smooth maintenance were their goals, with restoration of rhythm when there were atrial arrhythmias. Any investigation may be misguiding when it comes to diagnosis of acute coronary syndrome. Even a negative preoperative 99m Technetium tetrofosmin myocardial perfusion imaging does not guarantee a postoperative acute coronary syndrome [5]. As a result, any other preoperative investigation does not have to be perfect for the diagnosis. The fact that potassium is an intracellular ion is one of the major stumbling blocks in the diagnosis of hypokalaemia-induced ECG changes. As a result, ECG changes may precede serum levels [6]. Another fact is that there could be an artefactual increase in serum values due to a variety of factors. As a result, even though the values were normalised in a matter of hours in our case, the ECG changes took five days to settle. We suspected hypokalaemia as the cause of the ECG changes because there were no concomitant findings. We report this case because of its extreme rarity of a combination of strangulated femoral hernia with ECG changes of ACS but later became normal.

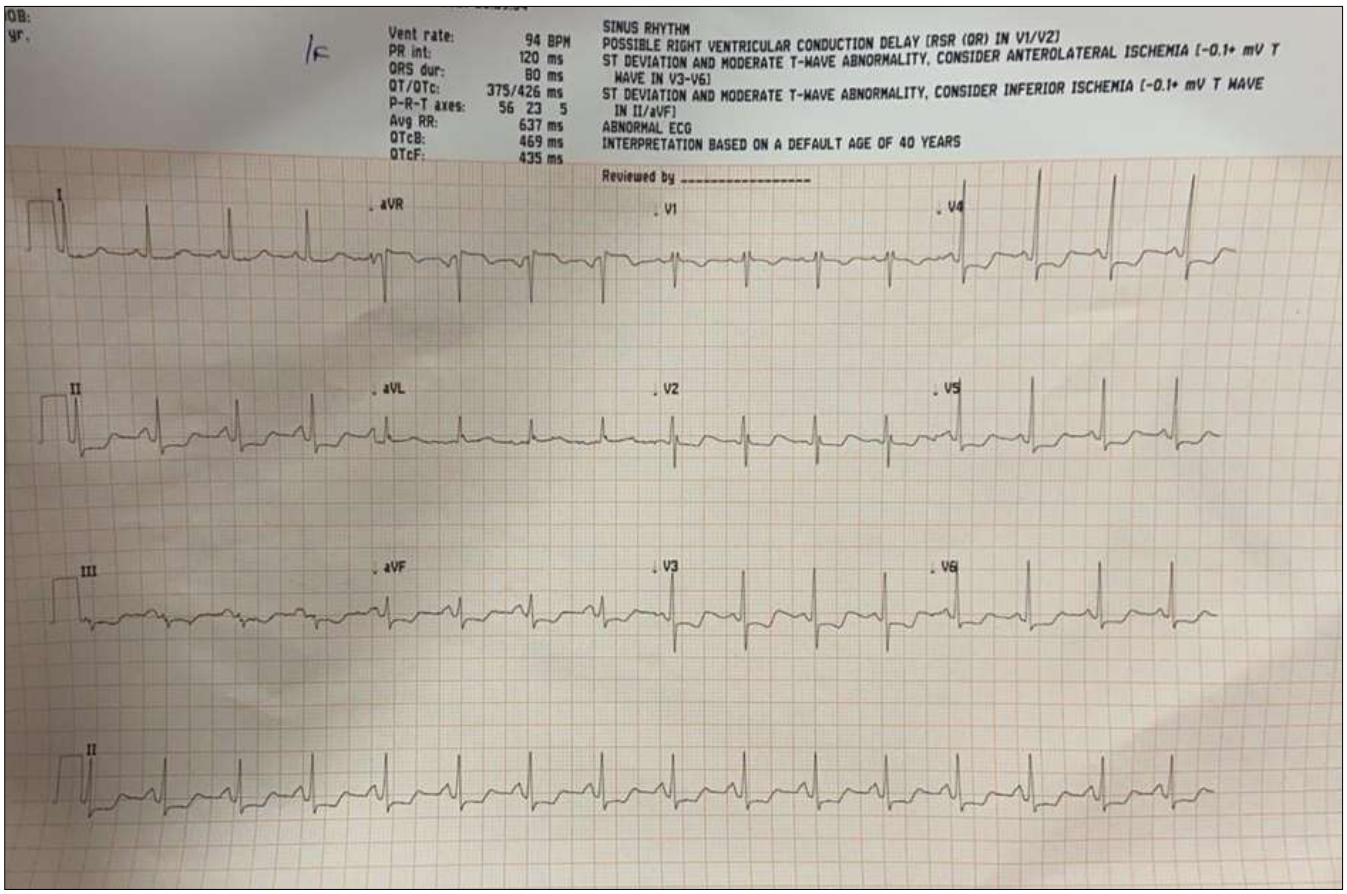

Fig 1: Showing ECG changes suggestive of acute coronary syndrome

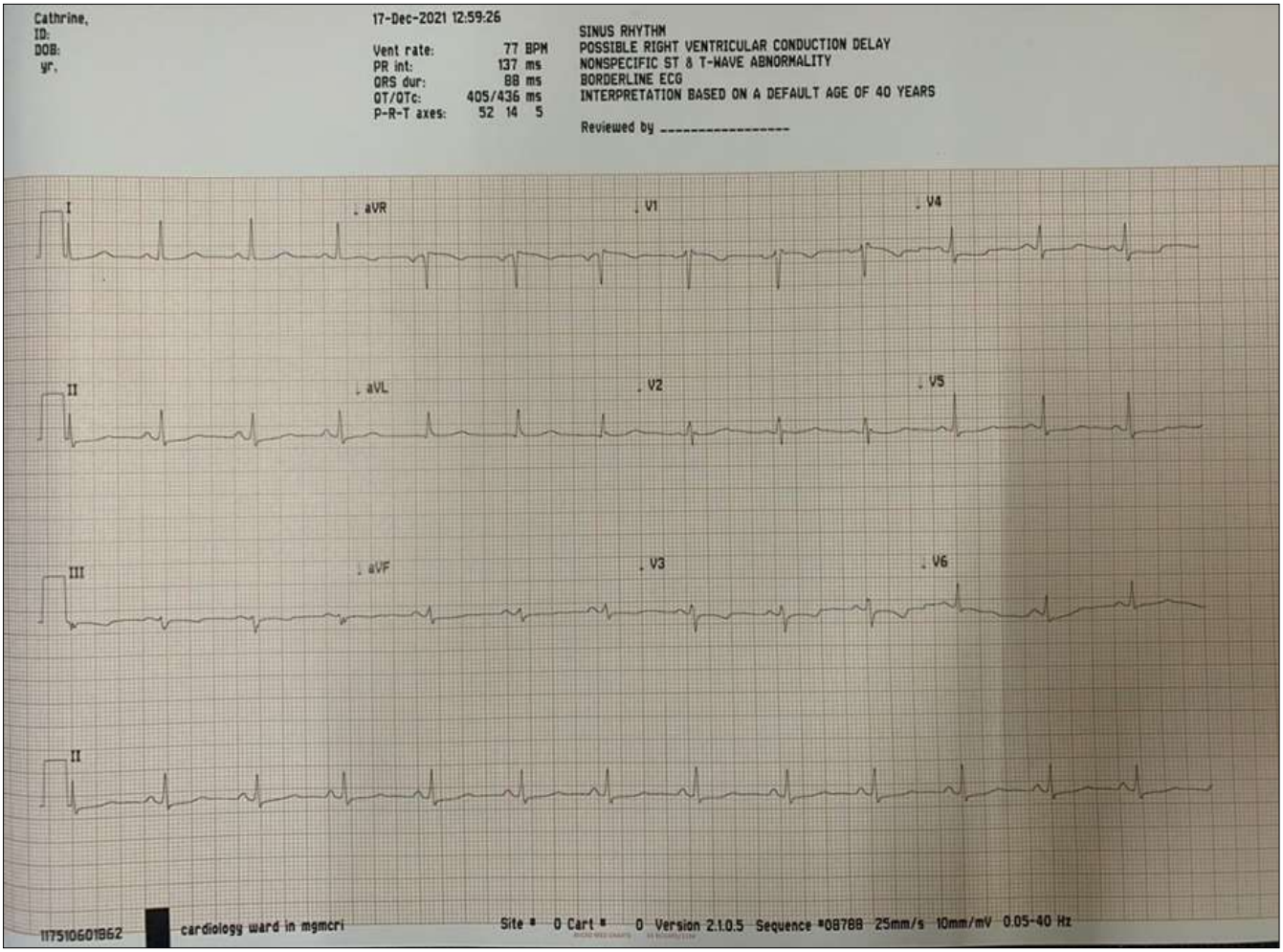

Fig 2: Showing reversal of changes

Conflict of interest: Nil for all the authors
Financial support: Nil
Patient consent: Yes

References

1. Hernia Surge Group. International guidelines for groin hernia management. Hernia. 2018;22(1):1-165.
2. Hedge J, Balajibabu PR, Sivaraman T. The patient with ischaemic heart disease undergoing non cardiac surgery. Indian J Anaesth. 2017;61:705-11.
3. Parthasarathy S, Sripriya R, Krishnaveni N. Anesthetic management of intestinal obstruction: A postgraduate educational review. Anesth Essays Res. 2016;10(3):397-401. doi:10.4103/0259-1162.177192
4. Yadav S, Nethaji R, Kayina CA, Sinha R. Anaesthetic management of an obese patient with obstructive sleep apnoea and atrial flutter for emergency obstructed umbilical hernia surgery,: . Indian J Anaesth. 2020;64(8):723-724. doi: 10.4103/ija.IJA_109_20.
5. Gurajala, Indira, Durga, Padmaja A. negative preoperative 99mTechnetium tetrofosmin myocardial perfusion imaging scan with postoperative acute coronary syndrome: A case of balanced ischaemia, Indian J Anaesth. 2020;64(2)138-140. Doi: 10.4103/ija.IJA_617_19.
6. Parthasarathy S, Ravishankar M. Potassium Ion and Anaesthetic Implications, Journal of Anaesthesiology Clinical Pharmacology. 2007;23(2):129-144.