

Ultrasound-Guided Bilateral Rectus Sheath Block Combined With Intravenous Dexmedetomidine for Open Gastrostomy In High Risk Patient: A Case Report

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Introduction

Ultrasound-guided rectus sheath (RS) block has been shown to be effective for postoperative analgesia^{1,2}. However, the use of this block for a surgical anaesthesia was rarely reported^{3,4}. We would like to report a case utilizing RS block as primary anaesthetic technique for high risk surgery.

Case Report

A 72-year-old female patient was planned for open gastrostomy for benign esophageal stricture under general anaesthesia.

This patient suffered two episodes of cerebrovascular attacks rendering her with bilateral hemiparesis with swallowing difficulties. She was bed bound for the last five years and was fed via a nasogastric tube. She was admitted to hospital following multiple failed attempts at nasogastric tube insertion at home and suspected aspiration pneumonia. Esophagoscopy revealed an esophageal stricture 30 cm from incisor and attempts to bypass the stricture using an ultra slim scope failed. Thus, she was referred for an open gastrostomy for feeding tube insertion.

During preoperative anesthetic assessment, we noted her Glasgow Coma Scale was 12 (E4V2M6). She has slurred speech and the cough and gag reflexes were poor. She was hemodynamically stable. Oxygen saturations was 96% on nasal prong 3L/min, respiratory rate of 20 bpm and upon auscultation there was coarse crackles all over the lungs. Chest X-ray reveals cardiomegaly and bilateral perihilar haziness. Electrocardiography showed right bundle branch block. Routine blood investigations, including full blood count, renal profile, coagulation profile and venous blood gas were normal.

After obtaining written informed consent from next of kin, we prepared the patient for administration of the RS block. The patient was placed supine with standard patient monitoring including electrocardiogram, pulse oximetry and non-invasive blood pressure attached. Face mask providing supplemental oxygen of 5L/min was applied. An 18-gauge intravenous cannula was inserted, and normal saline infusion was commenced. Patient's upper abdomen was cleaned aseptically and draped. Sonosite M-Turbo (Bothell, WA, USA) ultrasound utilizing high frequency 13-6MHz 35mm linear transducer covered with a sterile sheath was placed in transverse view, at a point lateral to the mid distance between xiphisternum and umbilicus. Sonoanatomy survey of the rectus sheath and its related structures was performed. Five ml of 2% lignocaine were infiltrated at the puncture site. A 100mm, 21G Stimuplex®A (Melsungen, Germany) insulated needle was inserted in-plane in a medial to lateral orientation and advanced through the subcutaneous tissue, the anterior RS

and the body of the rectus abdominis muscle (RAM) until the tip rested on the posterior RS. After aspiration to avoid intravascular placement, 30 ml of 0.375% ropivacaine were injected between the RAM and posterior RS. Similar technique and dosage was also applied at the opposite side. After 20 minutes, the patient was transferred to the operating room for surgery.

During ~~the~~ surgery, the patient received 0.6 mcg kg⁻¹ loading dose of intravenous dexmedetomidine followed by infusion of 0.3 to 0.6 mcg kg⁻¹ hr⁻¹. She required 2 boluses of intravenous ketamine 0.25mg kg⁻¹ during the manipulation of stomach. Duration of surgery was 30 minutes and there was no intraoperative complication. Patient was observed in recovery in which she continued to be pain-free till ward review on the following day.

Conclusion

Open gastrostomy is usually done on high risk patients that poses several anesthetic challenges. In this case, we demonstrated that open gastrostomy was possible to be done under RS block with supplemental intravenous dexmedetomidine and ketamine. This method can be considered as an alternative to general anaesthesia when facing patients with such challenges.

References

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