Ultrasound-guided modified blocking the branches of intercostal nerves in the middle axillary line (BRILMA) block as the sole anaesthetic technique for incision and drainage of truncal abscess in a high-risk patient

Sir,

BRILMA (Blocking the branches of intercostal nerves in the middle axillary line) was first described in 2013 as serratus intercostal fascial plane block at fourth rib level to provide analgesia for non-reconstructive breast surgeries.\(^1\) Later it was modified and performed at 8\(^{th}\) rib level for open gastrectomy and at 9\(^{th}\) rib level to provide peri-operative analgesia (as an alternative to epidural) in open cholecystectomy patients.\(^2,3\) We share our experience of using modified BRILMA block for surgical anaesthesia in a high-risk patient for incision and drainage of truncal abscess.

A 58-year-old male was admitted with a history of painful inflamed swelling over left lower anterior chest wall for eight days [Figure 1a]. The patient was a heavy smoker and had controlled hypertension and type II diabetes mellitus. Local examination and radiological findings were suggestive of abscess of 9.0 cm × 7.7 cm, which was medial to anterior axillary line. It had internal septations involving left hypochondriac region without any involvement of ribs, costochondral junction, peritoneum or other organs. Contrast enhanced computed tomography of thorax also revealed focal pleural thickening, emphysematous changes and enlarged mediastinal and paratracheal lymph nodes. Clinically, he had tachycardia, hypotension, tachypnoea and fever at the time of presentation. His laboratory investigations showed Hb 9 g/dL, total leucocyte count 20,260/cu mm, platelets 5.05 lakh/cu mm, random blood sugar 250 mg/dl, sodium 126 mmol/L, albumin 3.1 g/dl and direct bilirubin 1.03 mg/dl. His American Society of Anaesthesiologists physical status was graded as IIIE and we decided to perform an ultrasound-guided BRILMA block as the sole anaesthetic technique with mild sedation for emergency incision and drainage of the abscess. Peri-operative management plan was discussed and informed high-risk consent was obtained from patient and relatives.

After attaching the standard monitors, 0.9% saline was started through a large bore intravenous peripheral cannula. The patient was placed in right lateral position and inj. midazolam 1 mg and fentanyl 50 mcg were administered intravenously for anxiolysis and oxygen inhalation was started with Hudson’s mask. Ultrasound (GE, LOGIQ C5, USA)-guided modified BRILMA block was performed with a high-frequency linear probe (8L-RS) at left 8\(^{th}\) rib in the mid-axillary line with a 22 G, 5 cm echogenic needle directed cephalad via in-plane technique [Figure 1b and c]. A volume of 15 mL of 0.5% levobupivacaine was injected between serratus anterior and external intercostal muscles. The extent of block was checked after 10 min using spirit-soaked cotton and a blunt needle. The distribution of anaesthesia was confirmed from T5 to T9 dermatomes. Intravenous paracetamol 1 gm and diclofenac 75 mg were given as a part of multimodal...
analgesia. The surgery lasted for 20 min and around 300 ml pus was drained by a 3 cm stab incision at the middle part of the swelling. Patient was comfortable and haemodynamically stable throughout the procedure. Postoperatively, he was shifted to intensive care unit for monitoring and further management. He recovered well and was discharged after seven days.

The primary goal of the anaesthesiologist is to ensure safety and optimal peri-operative care for septic patients to maximise the benefit from the surgical source control procedure. Peripheral nerve block as a sole anaesthetic technique provides cardio-respiratory stability, optimal peri-operative analgesia, reduces the use of opioid and non-opioid analgesics and also helps in early recovery. BRILMA is a superficial block, safe and easy to accomplish under ultrasound guidance. The fascial plane targeted in this block is superficial to the ribs and the pleural lines, which can be visualised clearly on ultrasound. No complications have been reported so far, but pneumothorax is a concern similar to deep serratus anterior plane block. With the administration of the local anaesthetic (LA) at the level of the 8th rib, into the fascial plane between the serratus anterior muscle and external intercostal muscle, it is possible to block the anterior and lateral cutaneous branches of intercostal nerves T6 to T11, which are responsible for the innervation of the upper abdominal wall. BRILMA provides only somatic analgesia. Hence, it can only be considered in superficial surgeries as a sole anaesthetic technique. The volume of LA should be carefully administered and the patient should be monitored for possibility of LA systemic toxicity.

We conclude that ultrasound-guided BRILMA block is an effective incision congruent regional anaesthesia technique for high-risk patients in need of incision and drainage of anterior truncal abscess.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Acknowledgement
We would like to acknowledge Dr. B. Senthilkumar, Consultant, Department of Anaesthesiology, Ganga Hospital, Coimbatore, India for his support and encouragement.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

Arshad Abdulsalam, Tuhin Mistry, M Bharath Kumar
Department of Anaesthesiology, AIIMS, Raipur, Chhattisgarh, India

Address for correspondence:
Dr. Tuhin Mistry,
G-304, Jainam Planet, Tatibandh,
Raipur - 492 099, Chhattisgarh, India.
E-mail: dr.tuhin2014@gmail.com

Submitted: 10-Apr-2020
Revised: 26-Apr-2020
Accepted: 03-May-2020
Published: 31-Jul-2020

REFERENCES
1. Fajardo M, López S, Diéguez P, Alaro P, García FJ. A new ultrasound-guided cutaneous intercostal branches nerve block or analgesia after non-reconstructive breast surgery. Cir May Amb 2013;18:3-6.
2. Fernández Martín MT, López Álvarez S, Mozo Herrera G, Platero Burgos JJ. Ultrasound-guided cutaneous intercostal branches nerves block: A good analgesic alternative for...
Letters to Editor

3. Fernández-Martín MT, López-Álvarez S, Fajardo-López M. Interfascial intercostal nerves block: Alternative to epidural analgesia in open gastrectomy? Report on 4 clinical cases. Rev Esp Anestesiol Reanim 2015;62:580-4.

4. Eissa D, Carton EG, Buggy DJ. Anaesthetic management of patients with severe sepsis. Br J Anaesth 2010;105:734-43.

5. Silva Pereira T, Rodrigues Silva C, Veiga NF, Alfaró de la Torre P, Kabiri-Sacramento M. BRILMA block for costal cartilage excision: Case report. Rev Esp Anestesiol Reanim 2020;S0034-9356(20)30021-9.

6. Chakraborty A, Khemka R, Datta T. Ultrasound-guided truncal blocks: A new frontier in regional anaesthesia. Indian J Anaesth 2016;60:703-11.

How to cite this article: Abdulsalam A, Mistry T, Kumar MB. Ultrasound-guided modified blocking the branches of intercostal nerves in the middle axillary line (BRILMA) block as the sole anaesthetic technique for incision and drainage of truncal abscess in a high-risk patient. Indian J Anaesth 2020;64:733-5.

© 2020 Indian Journal of Anaesthesia | Published by Wolters Kluwer - Medknow