Unilateral erector spinae plane block for managing acute pain arising from multiple unilateral injuries: A case report

Sir,

A 25-year-old male who sustained high-velocity injury after a road traffic accident was brought to emergency room in a hypotensive state with blood pressure of 80/60 mmHg, Glasgow Coma Scale of 15/15, oxygen saturation (SpO2) of 91% and respiratory rate of 32–34/min. He had severe right lower chest, right abdominal and right pelvic pain. After resuscitation (1000 ml of balanced salt solution, oxygen with face mask), he was transferred for computed tomography (CT) scan of thorax and abdomen after an infusion of 1 gm IV paracetamol. On arrival in intensive care unit (ICU), his pain score on visual analogue scale (VAS) was 7/10, which was addressed with IV fentanyl 50 µg followed by an infusion of 30 µg/hr. As pain did not relieve for next 2 h, the pain team was consulted.

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The patient was conscious, haemodynamically stable with VAS of 8/10. CT Scan revealed fractures of right ribs (6–10), T12-L1 vertebral body (mild posterior displacement with thecal sac indentation), right transverse process, i.e. TP (L1-L5), right sacroiliac disruption and right first sacral vertebra [Figure 1a]. TP fractures are usually associated with intrabdominal injuries, but there were none in this case.[1] Sensations of touch and cold were preserved below the umbilicus. Quadriceps and ankle movements were weak. There was no surgical intervention planned by the spine and orthopaedic team. We decided to administer a continuous ESPB under ultrasound (US) guidance after counselling the relative and the patient and after obtaining an informed consent.

In ICU, IV ketamine 20 mg with 1 mg midazolam was administered and patient was turned lateral with affected side up in the presence of the spine surgeon. Under strict asepsis, a high-frequency linear transducer (6–13 MHz, Sonosite M-Turbo, Sonosite Inc.) was placed in lower thoracic area by counting the ribs from 12th cephalad in the right parasagittal plane. The 4th rib was identified and the transducer was shifted medially towards costotransverse junction. After skin infiltration with 4 ml of 2% lidocaine, an 18G Tuohy needle was advanced for computed tomography (CT) scan of thorax and abdomen after an infusion of 1 gm IV paracetamol.

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was obtained for the scan. Scan revealed a wide linear unilateral spread across the ESP in the thoracolumbar area. A paravertebral spread was observed in the axial scan at T9, T10 and T11, which could be correlated with coronal and sagittal images [Figure 1b and c]. On 4th day, the catheter was removed.

Pain due to fractured ribs is relayed in thoracic area, from vertebral body and TP in thoracolumbar region and the sacroiliac joint and first sacral body pain has its origin from upper sacral plexus. Forero et al. described ESPB for treating chronic neuropathic thoracic pain followed by Hamilton et al. who used ESPB for managing excruciating pain due fracture ribs successfully.[2,3] Klesius et al. utilised bilateral ESPB with catheters at T5 level for surgical repair of L1 burst fracture with T11-L3 posterior spinal instrumentation.[4] Cadaveric studies mention that placement of LA close to costotransverse junction blocks dorsal and ventral rami of thoracic spinal nerves.[5] Thoracolumbar fascia extends across the whole of the posterior thorax and abdomen and is continuous with nuchal fascia in neck.

To conclude, unilateral ESPB may be considered for managing pain arising from multiple sources.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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