

Early Serratus Plane Block for Rib Fracture Management could Avoid Intensive Care Unit Admission

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Sir,

Rib fractures are a very common chest trauma injury presenting in at least 10% of injured patients. However, they are associated with significant morbidity, and patients frequently require admission to the intensive care unit (ICU) with mortality rates as high as 33%.¹ Multimodal analgesia is vital to ensure adequate pain relief enabling patients to breath adequately and mobilize, with regional analgesia becoming the gold standard of pain relief. The newer serratus plane block is a viable alternative to thoracic epidural and paravertebral blockade, where local anesthetic is deposited either superficial or deep underneath serratus anterior,² with the added benefit of avoiding any motor block while allowing patients to mobilize. It has been shown to be an effective method of pain control, improving incentive spirometry, and allowing an effective cough in patients with rib fractures.^{3,4} Another advantage is that these blocks have the flexibility to be employed in a wide variety of circumstances, where central neuraxial blocks may not be feasible, such as anticoagulated patients, patients with vertebral fractures, and situations with limited positioning options.⁵

We conducted an audit at our hospital looking at rib fracture management over a 21-month period from February 2018 to November 2019, as this was when the rib fracture service was first introduced. During this period, 17 patients were identified, the average age of the patient was 60 years, and average number of fractured ribs were 3. Their pain was significant enough to need an acute pain referral, and a serratus plane catheter was inserted in addition to multimodal oral analgesia and intermittent boluses were given through the catheter twice a day. Post-procedure, a significant reduction in pain scores were observed, and patients were able to comfortably mobilize, and any morphine PCAs that were running were discontinued. Our hospital has a dedicated consultant delivered pain service that liaises closely with the surgical team to ensure that the majority of nerve blocks are carried out on the day of admission or the following day. Out of all the patients who received a serratus plane block catheter for rib fracture management, the average hospital length of stay was 4 days, and nobody developed any rib fracture complications requiring ITU admission for level 2 or level 3 treatment.

Rib fracture pain is often very difficult to treat, and optimal pain relief needs to be provided early. These patients are often elderly, have multiple coexisting comorbidities, and are on extensive medication of which one is usually an anticoagulant. If pain is not controlled, they will rapidly develop rib fracture-related

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complications such as pneumonia and respiratory failure. This situation will usually require ICU admission, where the course could potentially be long, costly, and devastating. Our hospital data have shown that an early serratus plane block catheter is a simple intervention that provides excellent analgesia, allows patient mobilization, improves ventilatory mechanics, shortens hospital length of stay, and avoids ICU admission representing a significant cost saving to the hospital, and this strategy should be employed worldwide.

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