SERRATUS ANTERIOR PLANE BLOCK FOR RIB FRACTURES IN THORACIC TRAUMA PATIENTS - CASE SERIES

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Background and aims

- Pain management for patients with chest trauma rib fractures can be challenging. Recently, ultrasound guided serratus anterior muscle plane block has emerged as alternative analgesic technique to traditional intravenous opioid analgesia, epidural and paravertebral blocks, with minimal side effects.
- The aim of this case series was to show that the serratus anterior plane block could provide effective analgesia for patients with multiple rib fractures.

Results

- Patients average age was 53 years. Fracture of 1-3 ribs was found in 2 patients and fracture of 3-6 ribs in 10 patients, with mean TTSS of 8,67 and mean ISS of 29,17. Every patient reported reduction in their pain scores following the block within an hour. Mean NRS pain score before block was 8,41 and 3,58 after block. Wilcoxon signed rank test showed statistically significant differences between pain score before and after block ($p=0,002$).

Pain scores on NRS before and after SAP block

Chart 1. NRS pain scores before and after serratus anterior plane block

Methodology

- 12 patients with multiple traumatic rib fractures had intensive pain regardless of intravenous analgesia, and underwent unilateral serratus anterior plane block. Under ultrasound guidance, a dose of 0,4 mg/kg 0.25% levobupivacaine was given between the serratus anterior and latissimus dorsi muscles.
- Pain scores were recorded with numerical rating scale (NRS) before and one hour after the block. Thoracic trauma severity score (TTSS) and injury severity score (ISS) were also recorded.

Figure 1. Serratus anterior plane block sonoanatomy (top), with block approach.

Conclusion

- **Serratus anterior plane block can provide effective analgesia in thoracic trauma patients with multiple rib fractures, and can be alternative to thoracic epidural and paravertebral blocks.**