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Percutaneous cryoneurolysis: new kid on the rib fracture pain 'Block'

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Multimodal analgesia is a mainstay of traumatic rib fractures management, using a combination of medications and interventions to synergistically target different pain pathways and minimize adverse effect of a single modality.[1 2] Locoregional blocks are especially attractive analgesic adjuncts due to their effectiveness and minimal effect on hemodynamics or the central nervous system.[3 4] The blocks involve single-shot injections or continuous infusion of local anesthetics, but their analgesic effects are typically time-limited. Alternatively, cryoneurolysis can target the same nerve pathways but prolong analgesia by causing Wallerian degeneration of peripheral nerves resulting in 3–6 months of analgesia as the nerves regenerate. Interest is rapidly growing for expanding the application of cryoneurolysis to those patients undergoing non-operative and operative management of their rib fractures.[5 6]

In this article, Villalta *et al* demonstrated the feasibility of an ultrasound-guided Intercostal cryoneurolysis (ICN) for five patients who presented with traumatic rib fractures.[7] After the procedure, the patients showed a trend towards improved inspiratory capacity measured by incentive spirometry and decreased subjective pain score with a duration up to 30 days postdischarge. There was no procedure-related adverse event. Although the small sample size, short follow-up period and lack of control group precluded statistical testing to evaluate the effectiveness or safety profile of this modality, the study illustrated a method allowing ICN to be performed as a bedside, minimally invasive procedure. Our group similarly reported our experience of incorporating CT-guided ICN performed by interventional radiologists as a part of the rib fracture clinical pathway for older adults.[6] Together, these studies expanded the potentials of ICN to offer patients timely, long-lasting and effective pain control for rib fractures. As the authors astutely pointed out, future larger, prospective trials are needed to characterize the risk-benefit profile and realize the full potential of percutaneous ICN, the new kid on the rib fracture pain 'block'.

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