

Comments on “Effect of coolant spray on rib fracture pain of geriatric blunt thoracic trauma patients: a randomized controlled trial”

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This paper¹ aimed to evaluate the effectiveness of cryotherapy in elderly patients with rib fractures due to blunt thoracic trauma via a prospective randomized controlled study (coolant spray group, n=51; placebo spray group, n=50). The authors concluded that coolant spray therapy can be used as a component of multimodal therapy to provide adequate analgesia due to rib fractures in geriatric patients; however, some points of this research do not support this conclusion.

First of all, the authors did not describe the study hypothesis (this weakens the results). Second, they did not present the minimal clinically important change of the VAS on the patients' pain level (making it impossible to analyze clinical relevance). Comparisons of outcomes in clinical trials should consider the minimal clinically important change of the mean differences because the p-value only shows statistical significance, which interpretation translates just a hypothesis test governed by a probability of previously defined error (α)^{2,3}. Third, they did not present the assess the effect size (e.g., Cohen's $d = [M1 - M2] / S_{\text{pooled}}$)^{4,5} of the comparisons between the times and groups (making it impossible [again] to analyze clinical relevance). Fourth, they should have assessed the patients' disability for pre- and post-intervention comparisons.

As such, the new conclusion is as follows: although this study has shown significant differences between coolant spray therapy and placebo (used as a component of multimodal therapy to provide adequate analgesia due to rib fractures in geriatric patients), its clinical relevance is yet unknown.

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AUTHORS' CONTRIBUTIONS

APS: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **KSL:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **CIAS:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **ALP:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **ADSA:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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