Objective Preoperative Pain Response as a Risk Factor for Postoperative Pain

Authors:

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Abstract:

This study aims to investigate whether there is an association between a patient's acute pain response and their subsequent experience of postoperative pain and recovery from endoscopic carpal tunnel release. We hypothesize that the intensity of pain elicited by a standardized preoperative stimulus will effectively stratify the risk of postoperative pain and recovery. The objective is to validate a precise metric for risk stratification, contributing to optimized postsurgical pain management.

Background:
Surgery inherently induces tissue damage, invariably causing postoperative pain. While typical expectations involve a decline in postsurgical pain over time and its resolution by 2-3 months, a subset of patients deviates from this norm.[1] Approximately 10-50% of patients necessitate intensified or prolonged postoperative analgesia.[2,3] Patient satisfaction and surgical outcomes improve with a formalized postsurgical analgesia regimen. Presently, clinical judgment guides the design and implementation of such regimens, lacking a validated objective metric for risk stratification.[4]

Methods:
This study employs several assessments, the Brief Resilience Scale, the Brief Pain Inventory (BPI), Visual Analogue Scale, the Symptom Severity Scale, Functional Status Scale, and the Critical-Care Pain Observation Tool (CPOT), to quantitatively measure pain throughout the surgical course. Our approach involves evaluating patients during scheduled outpatient appointments, screening those eligible for endoscopic carpal tunnel release. Subjects quantify their pain using the assessments preoperatively. Immediately after local anesthesia injection during the surgical procedure, patients are asked to quantify the severity of their pain response to the injection using the visual analogue scale. While this is occurring, the patient is also evaluated using the CPOT. The endoscopic carpal tunnel release procedure then proceeds in the routine fashion. Standardized postoperative assessments occur at 2 weeks, 6 weeks, 3 months, and 6 months post-surgery.

Through this research, we hope the validated risk stratification metric generated will contribute to a more targeted and effective pain management approach, ultimately improving patient care and surgical outcomes. Preliminary data has been collected, and the results will be presented.

References:
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