

EDITORIAL

Acute Pain in Emergency Surgery: A Call for More Precise Patient-Centered Approaches

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ABSTRACT:

The development of emergency surgical care has improved clinical outcomes, and the mortality rate has been reduced by a great margin, but the management of acute pain remains one of the biggest problems. Acute pain in post-emergency surgical patients is often not well identified, evaluated, and treated, which contributes to the prolonged period of recovery, greater complications, and poor patient satisfaction. There is evidence to indicate that inadequately managed postoperative pain can be one of the contributing factors to delayed mobilization, psychological distress, and functional impairment in the long term. This paper will review the current literature on acute pain in emergency surgery, its prevalence, factors contributing to it, available management protocols, pain evaluation procedures, drug and non-drug interventions, and patient-reported measures. The literature indicated that pain management practices vary significantly, the use of standardized pain assessment tools is limited, and incorporation of patient-centered approaches is also inadequate. It is necessary to involve accurate pain evaluation, multimodal analgesia, case-specific care plans, and sustained pain management after the immediate postoperative phase to enhance acute pain outcomes of emergency surgery, improve recovery, and quality of care.

Keywords: Acute pain, Pain Management, Multimodal analgesia, Emergency Surgery, Patient-Centered Care

The problem of acute pain is widespread and under-reported in patients undergoing emergency surgeries and has a considerable impact on patient recovery and overall outcomes. Studies have shown that in emergency departments and surgical units, even with high incidence, acute pain is frequently under-assessed and untreated because of time constraints, absence of standardized pain assessment and management tools, and differences in clinical practice ¹. Emergency surgery is different from elective procedures as patients tend to come without prior optimization, proper preparation, and pre-determined plans regarding pain management. It has been demonstrated that a very large percentage of emergency patients have reported mild to very severe pain on presentation, but many do not receive timely and adequate analgesia because of limitations in documentation systems and inadequate staff training in the use of objective pain-assessment scales ².

The physiological stress may contribute to postoperative complications, including infection, thromboembolism, and sluggish recovery of the gastrointestinal system in surgical patients; patient satisfaction surveys have shown that current practices still do not adequately incorporate the subjective nature of pain and individual experiences of patients ³. Moreover, poor pain management inhibits early mobilization, which is essential in avoiding postoperative pneumonia and deep vein thrombosis. Acute pain may also have significant psychological effects on emergency surgery patients. Fear, anxiety, and helplessness are frequent symptoms, especially in cases of pain that is not well explained or unexpected. Studies have found that patients with severe postoperative pain have higher chances of developing chronic pain syndromes, depression, and post-traumatic stress symptoms, particularly following traumatic emergency operations ⁴.

These long-term consequences are especially dangerous in younger patients and patients who have undergone major operations on the abdomen or orthopedic emergency surgeries ⁵. The existing emergency surgery pain management approaches are based on pharmacological interventions, and mainly opioids. Although opioids are helpful in the treatment of severe pain, their excessive use causes negative side effects, including respiratory depression, nausea, constipation, delirium, and long-term dependence risk ⁶. There is growing support in the literature on the application of multimodal analgesia, which involves the use of opioids and non-opioid drugs, regional anesthesia methods, and non-pharmacological approaches to enhance pain management and reduce side effects ⁷.

However, these strategies are not consistently implemented in emergency settings. Urgent shortcoming is the absence of patient-based pain management strategies. Pain is relative, but most emergency surgery plans do not include patient-reported pain experiences in their care planning. It has been emphasized in studies that the use of individualized pain management plans, shared decision-making, and clear communication contribute to better pain outcomes and patient satisfaction ⁸. Those patients who know their pain treatment and are actively involved in making decisions show improved compliance with treatment and recovery. Continuity of postoperative pain management is also significant. Post-discharge pain management is usually less effective because the patients are no longer in the emergency and surgical unit where intensive pain management is provided. It is believed that an organized postoperative pain follow-up, comprising early rehabilitation, psychological assistance/help, and remote measurements, enhances recovery and decreases long-term pain complications ⁹.

Digital pain tracking and telemedicine consultations may help address gaps in postoperative pain monitoring and follow-up. The variation of patients' characteristics and clinical presentations can further complicate the effective management of acute pain in emergency surgery. Some of the patients undergoing emergency procedures frequently include trauma patients, elderly patients with multiple comorbidities, and patients with

pre-existing opioid tolerance or chronic pain syndrome ¹⁰. The use of standardized pain protocols is not enough without clinical judgment and case-specific adaptation, which relies on patient physiology, psychological condition, and the severity of the surgical intervention. Recent evidence demonstrates the significance of applying to the emergent surgical pain management pathways the use of regional anesthesia techniques and non-pharmacological interventions. Epidural and peripheral nerve blocks can reduce opioid consumption, improve postoperative mobility, and improve patient satisfaction ¹¹.

The cognitive-behavioral interventions, patient education, and reassurance are significant in pain management, especially in high-stress emergency departments. Research indicates that patient-centered communication/shared decision-making can substantially decrease the levels of perceived pain and anxiety in patients ¹². The consideration of the given strategies in the emergency surgical care models promotes holistic recovery and matches the concept of pain management with the current quality-of-care standards, which eventually leads to enhancement of both clinical and patient-reported outcomes ¹³. Available evidence indicates that untreated acute pain may trigger physiological stress responses, including increased sympathetic activity, impaired immune function, and delayed wound healing ¹⁴.

Failure to manage acute pain within a suitable timeframe and in an adequate manner, thus, may lead to a rise in postoperative complications, longer hospital stays, and slower functional recovery ¹⁵. The emergency surgery, due to its time-sensitive nature, tends to impose procedural urgency on individualized pain assessment, leading to impersonal but not patient-centered analgesic care. There is evidence to support a shift to accurate, multimodal, and mechanism-based pain management that integrates patient and surgical variables ¹⁶.

Sudden pain and psychological distress in emergency surgery may increase the feeling of fear, loss of control, and perception of pain, and this is detrimental to patient satisfaction and recovery. Combining opioids with non-opioid agents, regional anesthesia, and supportive non-pharmacological interventions can be considered multimodal analgesic methods that address several pain mechanisms and have been demonstrated to decrease opioid consumption, reduce its adverse effects, and enhance functional outcomes. The issue of acute pain in emergency surgery requires precision of assessment, multimodal plans tailored to each patient, and patient-centered care because effective pain management is the primary element of high-quality surgical care that can enhance recovery and minimize adverse events

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