

Transition of Acute to Chronic Pain – Identifying The Risk Factors

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Chronic pain is now recognized as one of the distinct health priorities by its inclusion in the International Classification of Disease (ICD -11). Many patients describe persistent unresolved pain following surgery or trauma as initial inciting events. The transition of acute persistent pain to chronic pain is a 'continuum'. This 'chronification' process, involved changes in neurohumoral and neurophysiological responses in the nervous system.

Translational sciences have shown that altered pain modulation following peripheral and central sensitization resulting from trauma or surgery, could be the underlying mechanism of chronification. This imprints neuroplastic changes in the 'neuromatrix' of pain sensory system.

More importantly is how it resulted in alteration of behaviour and cognitive function leading to dysfunctional and maladjustment state in patients' lifestyle. Hence, it is paramount to recognize and implement preventive measures in the perioperative period which could have major impacts in preventing chronic pain.

The discussion seeks to identify factors that predispose to chronic pain. A few have been identified such as female gender, younger age group, genetic predisposition, psychological vulnerability, stress, catastrophizing and hypervigilance state. On top of that, multiple animal studies on incisional pain model and clinical evidences suggest preventive strategies such as minimally invasive surgery and perioperative medication or technique (eg ketamine, regional blocks, lidocaine) to reduce peripheral and central sensitization.

It is hoped that with better recognition of at-risk population, appropriate treatment of acute pain and application of scientific guidelines, the chronification process could be halted while in transition, or prevented altogether.

Further reading:

1. Lavand'homme, P. (2017). "Transition from acute to chronic pain after surgery." *Pain* 158 Suppl 1: S50-S54.
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3. Schug, S. A. and J. Bruce (2017). "Risk stratification for the development of chronic postsurgical pain." *Pain Rep* 2(6): e627.
4. *Schug SA, Palmer GM, Scott DA, Halliwell R, Trinca J. Acute Pain Management: Scientific Evidence. 4th ed. Melbourne: ANZCA & FPM; 2015*