

Global Year Against **Acute**

PAIN

OCTOBER 2010 – OCTOBER 2011

Acute Pain and Surgery

Introduction

Pain after surgery is a compilation of several unpleasant sensory, emotional, and mental experiences, associated with autonomic, endocrine-metabolic, physiological, and behavioral responses [3,4].

Scope of the Problem

- A recent survey demonstrated that over 80% of patients who had undergone surgery reported postoperative pain [1]. Differences exist across countries.
- Most patients report worse pain control after discharge from hospital.
- Despite substantial advances in pain research, numerous studies show that less than half of postoperative patients receive adequate pain relief [1].
- There is an urgent need for improvement of postoperative pain treatment, including organizational, pathophysiological, and pharmacological aspects [2].

Mechanisms of Acute Postoperative Pain

- Patients with surgery experience pain caused by damage to a variety of tissues.
- Commonly injured tissues include skin, muscle, bone, tendons, ligaments, and visceral organs.
- Symptoms vary depending upon the type of tissue injured and the extent of the injury.
- Sensory pathways for pain caused by tissue damage transmit information from the damaged tissue to the central nervous system (nociception).
- Nociceptive pain is accompanied by inflammatory, visceral, and neuropathic pain mechanisms.
- Sensitization of peripheral and central neuronal structures amplifies and sustains postoperative pain.

Consequences of Unrelieved Pain

- In the short term, unrelieved acute surgical pain:
 - creates needless suffering;
 - puts patients at risk of increased postoperative morbidity and mortality;
 - increases hospital stay and costs of care.
- In the long term:
 - Acute surgical pain is followed by chronic pain in 10–50% of patients who undergo common surgical procedures [5].
 - Severe chronic pain develops in 2–10% of these patients.
 - Emerging evidence suggests that poorly controlled acute postoperative pain may be associated with chronic postoperative pain.

Documentation and Treatment of Acute Postoperative Pain

- Patients' experience of pain and their response to analgesic treatment should be documented in the postoperative period.
- Analgesic treatment should be tailored to the surgical procedure [6].
- Perioperative pain treatment should be as effective as possible, in order to relieve acute pain (both at rest and during movement) and to prevent chronic pain.
- Most often, a combination of different analgesics with different mechanisms of action, preferably including regional anesthesia techniques, should be combined to achieve additive effects, to lessen side effects, and to reduce the perioperative stress response.
- The health care providers involved in perioperative patient care should collaborate to prevent and treat postoperative pain in order to improve the patient's general clinical outcome.

References

- [1] Apfelbaum JL, Chen C, Mehta SS, Gan TJ. Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. *Anesth Analg* 2003;97:534–40.
- [2] Benhamou D, Berti M, Brodner G, De Andres J, Draisci G, Moreno-Azcoita M, Neugebauer EA, Schwenk W, Torres LM, Viel E. Postoperative Analgesic Therapy Observational Survey (PATHOS): a practice pattern study in 7 Central/Southern European countries. *Pain* 2008;136:134–41.
- [3] Dahl JB, Kehlet H. Postoperative pain and its management. In: McMahon SB, Koltzenburg M, editors. *Wall and Melzack's textbook of pain*. Elsevier: Churchill Livingstone; 2006. p. 635–51.
- [4] Hinrichs-Rocker A, Schulz K, Järvinen I, Lefering R, Simanski C, Neugebauer EA. Psychosocial predictors and correlates for chronic post-surgical pain (CPSP): a systematic review *Eur J Pain* 2009;13:719–30.
- [5] Kehlet H, Jensen TS, Woolf CJ. Persistent surgical pain: risk factors and prevention. *Lancet* 2006;367:1618–25.
- [6] Prospect. Available at: <http://www.postoppain.org>.

