
Postoperative pain management and outcome after surgery

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Postoperative pain management aims not only to decrease pain intensity but also to increase patient comfort and to improve postoperative outcome. Better pain control is achieved through a multimodal combination of regional analgesic techniques and systemic administration of analgesic agents. To guarantee uneventful follow-up and unnecessary prolongation of hospital stay, it is important to avoid side-effects of analgesic agents, especially those of opioids which are dose-related, by decreasing opioid demand through combination with non-opioid agents. Epidural analgesia not only has the advantage of providing potent and effective analgesia but also of hastening recovery of bowel function and facilitating physiotherapy and rehabilitation. Unfortunately, a reduction in postoperative morbidity and mortality by epidural analgesia has not actually been demonstrated. Inclusion of postoperative pain treatment in a multimodal approach of patient rehabilitation may improve recovery and shorten hospital stay. Effective treatment of postoperative pain is also likely to prevent chronic pain syndrome after surgery, but further studies are needed to support this hypothesis.

Key words: postoperative analgesia; epidural analgesia; postoperative morbidity; opioids; non-opioid analgesics.

The concept of pain treatment has evolved over the past year from the objective of reducing pain intensity to the optimization of patient comfort. This means not only a decrease in pain scores but also a reduction in analgesic-agent-related side-effects. Avoiding side-effects such as nausea, vomiting, urinary retention and sedation may indeed facilitate patient recovery and is likely to shorten hospital stay. For years it

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has been speculated that treatment of pain could avoid postoperative complications and consequently decrease in-hospital morbidity. Studies aiming to demonstrate this theory have focused on the effect of epidural analgesia.¹ More recently, it appears that postoperative analgesia has to be integrated into a global process that improves patient rehabilitation, shortens hospital stay, and potentially decreases postoperative complications.^{2,3} This include pre- and postoperative measures such as information of patients, preoperative nutritional support, minimally aggressive surgery avoiding drains and nasogastric tubes, the use of short-acting anaesthetic agents, preservation of patient homeostasis during surgery, early oral feeding and deambulation, and active physiotherapy. Effective pain treatment is not only a part of this process but also a necessary condition for applying most of the other postoperative measures. Thus postoperative pain treatment may significantly change postoperative outcome. In addition, recent studies have suggested that effective pain treatment may avoid the development of chronic pain syndromes, although further studies are needed to support this hypothesis.⁴

IS POSTOPERATIVE PAIN TREATMENT EFFECTIVE?

Postoperative pain can be defined as a complication of surgery. Thus, avoiding postoperative pain rarely impairs postoperative outcome, but it remains a challenge. There is indeed a discrepancy between the results of many epidemiological surveys that still report persistent pain in a significant proportion of postoperative patients and the fact that very effective analgesic tools are available to treat postoperative pain.⁵ The reason is probably related to the lack of organization of pain treatments in many institutions, despite the development of acute pain services. A recent survey in the United Kingdom documented that acute pain services are struggling to survive.⁶ In the same survey, physicians agreed on the need for a better organizational approach rather than new treatments and delivery techniques. It is clear that analgesic techniques and protocols allow a complete control of postoperative pain, but analgesic efficacy varies according to the technique and to the surgical procedure. A meta-analysis demonstrates that epidural analgesia with local anaesthetics provides better pain control than intravenous morphine patient-controlled analgesia (PCA) during the first 2 postoperative days after surgery, meaning that it is worth using this technique after major surgery during the first 2 days, but that the benefit vanishes thereafter.⁷ Multimodal analgesia, defined as the combination of analgesic agents in order to reinforce pain control while decreasing side-effects, is claimed to be the rule for postoperative pain treatment.⁸ Surprisingly, owing to the fact that combination of analgesic agents is common in daily practice, there are not so many studies that examine the benefit from such association in terms of pain control. Most of them assess a combination of opioid and non-opioid agents, while in clinical practice more than two different agents and/or techniques are commonly used. Moreover, a combination of agents is sometimes only as effective as each agent used separately; for example, the combination of paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs) is not more effective than NSAIDs alone.^{9,10} Analgesic agents are not equally effective in all instances, and a more specific approach based on each surgical procedure is required.¹¹ To include a given analgesic agent in guidelines requires that this agent has been demonstrated to be effective in the setting of a specific surgical procedure, bearing in mind that difference may be noted. For example, paracetamol is more effective after dental surgery than after orthopaedic surgery¹¹; epidural analgesia is effective

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