Summary

Pain is more than just a physical process; it is a complex, subjective phenomenon, and its treatment must be individualized. Mortality and morbidity after surgery seem to be related, in part, to the pathophysiological response to the surgical trauma and to postoperative complications.

Postoperative pain is a common phenomenon, which, in addition to causing suffering, can expose patients to unnecessary risks. It is one of the predominant forms of acute pain and it represents a social, economic and health problem, being relieved in less than 30% to 50% of adult and pediatric patients. Cardiac surgery brings about changes of several physiological mechanisms, contact with drugs and materials that can cause harm to the organism, apart from great organic stress that leads to increased postoperative pain after cardiac surgery.

Postoperative pain management considered to have a decreasing effect of postoperative morbidities, prevent development of persistent pain after different surgical procedures and decreasing the postoperative stay in hospital.

Recent advances in operative therapies and improved anesthetic techniques allow early extubation and fast tracking of our patients. However, there have been only small advances in pain control after median sternotomy.Newer approaches include a variety of techniques, such as central neuraxial blockade or selective nerve blocks, and drugs (natural and synthetic opioids, sedative-hypnotics, and NSAIDs). The most often used analgesics for alleviating pain after cardiac surgery are i.v. opioids administered via patient or nurse-controlled delivery systems.

Postoperative pain and large doses of opioids can increase adverse effects, which contribute to delayed postoperative recovery after major surgery. Therefore, the use of opioid-sparing analgesic techniques that can improve postoperative pain control while reducing opioid consumption might facilitate recovery and rehabilitation after cardiac surgery. NSAIDs have been shown to reduce morphine requirements in variety of surgical procedures and are devoid of central nervous system side-effects typical of narcotics. The opioid-sparing effect of NSAIDs has been inconsistently described in the cardiac surgery literature. Selective COX 2 inhibitors were shown to be associated with an increased incidence of serious cardiovascular events after CABG surgery, and their risks clearly outweigh any analgesic benefit.

Further research is needed to confirm the link between postoperative pain and morbidity, and to better quantify the risks of neuraxial anesthetic techniques in cardiac surgery patients. The use of spinal and epidural techniques is controversial because of the concern that the anticoagulation required during surgery might increase the small but serious risk of permanent spinal cord damage from an epidural hematoma. Such a risk must be balanced by important clinical advantages if the technique is to be justified. The focus of current research has been to identify these advantages, but thus far the positive findings have only been in surrogate end-points, and convincing respiratory, cardiac or other organ outcome data are lacking. No single technique or drug regimen has been shown to eliminate postoperative morbidity and mortality, but multimodal intervention may lead to a major reduction in the undesirable sequelae of surgical injury.

Also, the next step in the management of postoperative pain most likely lies in the combination of multiple techniques, each inadequate in itself, but when used together exhibit a significant effect with a much attenuated risk profile.