Chapter 4

INTRAVENOUS PATIENT-CONTROLLED ANALGESIA IN POSTOPERATİVE PAIN CONTROL

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INTRODUCTION

Postoperative pain is a form of acute pain that initiates with surgical trauma and subsides upon wound healing. It originates from cutaneous, deep somatic, or visceral structures. These nociceptive stimuli are transmitted to higher brain centers through the spinal cord (1).One of the methods used for pain treatment is patient-controlled analgesia (PCA). PCA enables the administration of a pre-prepared analgesic drug to the patient, typically through intravenous (IV) or epidural routes. It ensures that the drug is delivered to the patient in a pre-programmed dose by pressing a button. Infusion is performed using a special pump(2).

PCA was first described by Sechzer in 1968 using intravenous opioid administration. After demonstrating that small doses of intravenous (IV) opioid administration are more effective than traditional methods, a system has been developed in which the patient can control the dose of analgesic medication. This system has been defined as "the patient directly controlling their own pain using certain doses of analgesics." PCA has begun to be used in pain management following various surgeries, including major surgeries, thanks to advancements in microchip technology after the mid-1980s (3). PCA means more patient satisfaction, less sedation, and fewer post-operative complications. Patient-controlled analgesia is often preferred due to its positive contribution to the healing process of patients. Patient-controlled analgesia operates on the principle that the patient is responsible for their own pain management (4). PCA is mostly administered intravenously or epidurally, but it can also be administered by

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CONCLUSION

Intravenous PCA method has a long-established safety history. Although postoperative pain management can be achieved with developing regional anesthesia techniques and peripheral nerve blocks that are constantly developing and newly discovered, IV PCA remains a timeless treatment regimen. In cases where regional anesthesia or analgesia is relatively and/or strictly contraindicated, for example, in patients with reluctance, coagulopathy, and a history of blood thinning medication, IV PCA is still a good choice for pain relief. Successful postoperative pain management also contributes to the national economy with secondary benefits such as early mobilization, early discharge, early oral intake, and reduction of thromboembolic events.

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