

Post Operative Pain Management in Elderly Patients

Alketa Dervishi¹, Kiri Zallari²

^{1,2}Faculty of Medical Technical Sciences, Tirana, Albania

Abstract: Effective postoperative pain control is an essential component of the care of the surgical patient. This is a prospective hospital based study conducted at the Surgical Ward of the University Hospital Centre "Mother Theresa" and Lung Diseases Hospital at Tirana, Albania over the period 2013-2014. Postoperative pain management is initiated by a surgeon who operated the patient. A total number of 141 patients were included, 82 (58.2%) were males and 59 (41.8%) females. The mean age was 63.4 ± 11.4 years with a range 55-76 years. Based on assessment done at 24 hours, the largest percentage of individuals had a moderate pain during movement, 86 (61%). position changes or physiotherapy; which was not significantly greater than scores obtained during rest 68 (48.3%) ($p=0.1$). The analgesics may be used in combination taking advantage of their synergistic effect so that we optimize pain control to postoperative patients.

Keywords: pain, postoperative, management, analgesia, assessment

1. Introduction

Effective postoperative pain control is an essential component of the care of the surgical patient. Inadequate pain control, apart from being inhumane, may result in increased morbidity or mortality (1). Evidence suggests that surgery suppresses the immune system and that this suppression is proportionate to the invasiveness of the surgery (2). Good analgesia can reduce this deleterious effect. Data available indicate that afferent neural blockade with local anesthetics is the most effective analgesic technique. Next in order of effectiveness are high-dose opioids, epidural opioids and clonidine, patient controlled opioid therapy, and nonsteroidal anti-inflammatory agents (3). The advantages of effective postoperative pain management include patient comfort and therefore satisfaction, earlier mobilization, fewer pulmonary and cardiac complications, a reduced risk of deep vein thrombosis, faster recovery with less likelihood of the development of neuropathic pain, and reduced cost of care. The failure to provide good postoperative analgesia is multifactorial. Insufficient education, fear of complications associated with analgesic drugs, poor pain assessment, and inadequate staffing are among its causes. The assessment of pain requires not only a subjective report by the patient but also an objective observation by a pain therapist (4). The influence of the pain therapy on clinical function—such as the ability to take a deep breath, cough, and move—can be ascertained. An important part of the evaluation is a documented follow-up assessment to note the efficacy of the therapy and the patient's satisfaction with it. The natural history of the pain should be understood, so that therapy can be adjusted when needs change (5). The source of the pain, as well as its severity, should be noted. Pain symptoms that are inappropriate in site or severity should be investigated for a potential confounding pathology. Anxiety, fear, and cultural influences should be understood and either treated or accommodated as necessary. The goal of pain management must be determined with each patient. The goal may not be a score of 1; the patient may be satisfied and functional with a score of 3, preferring to manage some pain and thereby avoid unpleasant side effects of therapy, such as sedation, nausea, or pruritus. The key is to reassess the patient and determine if he or she is satisfied with the

outcome (6). A satisfaction score should be obtained together with a pain score. This combination will help ensure that unrelieved, unwanted pain does not go unnoticed. Responsive analgesia management with good patient communication is the key to a successful program. The aim of the study is to describe the postoperative pain management outcomes and challenges in our setting and improve health care delivery in our hospitals.

2. Materials and Methods

This is a prospective hospital based study conducted at the Surgical Ward of the University Hospital Centre "Mother Theresa" and Lung Diseases Hospital at Tirana, Albania over the period 2013-2014. Postoperative pain management is initiated by a surgeon who operated the patient. The analgesia prescription is based on surgeon preferences and availability of analgesics in the hospital. Data was collected using a structured questionnaire. The independent variables included age, sex, education level and occupation. The post operative pain management assessment was conducted at 24 hours and 48 hours post surgery using pain numerical rating scale used to measure pain adults (7). In the current study, assessment was done when a patient was at rest and during movement, change of position or physiotherapy. Patient was asked to score his pain during assessment. The level of pain ranged from 0 when a patient felt no pain at all to 10 when experiences severe pain. Pain score obtained was put into the following pain groups: no pain (0), mild pain (1-4), moderate pain (5-6) or severe pain (7-10). Management of a postoperative patient includes pain treatment. If postoperative pain is controlled, patient gets relief and subsequently satisfied. Patient satisfaction with pain treatment can indirectly be used to measure the level of pain control (8). Patient satisfaction with pain control treatment in this study was assessed using satisfaction scale on second day post surgery. The satisfaction scale is similar to pain scale (9). Patient was asked how much satisfied he was with pain control treatment given.

He had to score the level of satisfaction from 0 if was not satisfied at all to 10 if was completely satisfied. Data analysis was conducted using SPSS version 20. Chi square test was

used to compare the proportion between variables. A p-value of < 0.05 was considered statistically significant.

3. Results and Discussion

A total number of 141 patients were included, 82 (58.2%) were males and 59 (41.8%) females. The mean age was 63.4 ± 11.4 years with a range 55-76 years. The majority 117 (83%) of study participants were in retirement. 66.7% of participants underwent abdominal surgery whereas 33.3% chest surgery. Out of total patients, 126(89.4%) patients experienced various degree of post operative pain 24 hours postsurgery at rest. The remainder 15 (10.6%) were pain free. The distribution of pain scores obtained at rest namely none, mild, moderate and severe pain were 22 (15.7%), 68 (48.3%), 35 (24.5%) and 16 (11.5%), respectively (fig 1). No association was found between type of surgery and perceived pain ($p=0.1$). Based on assessment done at 24 hours, the largest percentage of individuals had a moderate pain during movement, 86 (61%), position changes or physiotherapy, which was not significantly greater than scores obtained during rest 68 (48.3%) ($p=0.1$). Postoperative pain assessment was conducted at 48 hours postoperative when a patient was at rest and during movement and no significant difference was found between them ($p=0.2$). Intramuscular injection was the commonest route of administration of analgesia, accounting for 103 (73%). Less than half (43.7%) of the patients were moderately satisfied with postoperative management given. Some 8.2% of the study participants were completely unsatisfied with postoperative management given. The patients whose analgesia was administered intravenously were significantly more likely to be satisfied with pain management than those who had analgesia administered intramuscularly ($p=0.03$). Analgesia used in combination, more than one analgesia used to one patient at the same time for the purpose of controlling pain, increased significantly the proportion of pain free individuals 48hours postoperative compared to 24 hours postoperative ($p<0.01$). Pethidine was the most commonly used analgesic, followed by diclofenac, tramadol and paracetamol in the first 48 hours post surgery. Different strengths of analgesia were used with or without combination. 52.9% of patients referred they were informed preoperatively about the pain, only 6% of them participated in the treatment of pain, 25% of them were informed about the treatment of pain and 58.8% were encouraged to use nonpharmacological methods (fig 2). Postoperative pain experienced in the first 48 hours post surgery is prevalent in our setting. Our study findings have shown that, among the patients involved in the study, 84.3% and 76.2% of patient experienced pain ranging from mild to severe in 24 and by 48 hours post operative respectively. Similar findings have been reported in other studies (9).

The postoperative pain scores percentages obtained when assessment conducted at rest at 24 hours exceeded that was obtained on movement in pain free individuals, mild and moderate pain with the exception of severe pain. This was contrary to what was observed in 48 hours pain assessment scores percentages at rest and during movement. The fact that during the first 24 hours postoperative, most of these patients were still immobile therefore hadn't started movement. Therefore the assessment scores obtained were

mainly from patient position changes and not full movement as that was obtained from 48 hours of assessment (10). When these patients were doing physiotherapy, their pain perception was destructed, hence their cognitive focused away from pain, as a result pain scored less than that was obtained at rest. Also physiotherapy may have contributed to muscle relaxation thereby reducing muscular tension which reduces pain perceived during this period. In the current study findings, there was no association of type of surgery a patient underwent with pain perceived. Patients who had major surgery like thoracotomy were found to experience more pain post surgery compared to the ones who had other types of surgery. Such patients with major surgeries should have special or multimodal analgesia approaches of controlling pain (11). This may reduce the pain prevalence post major surgery. Majority of postoperative patients in the current study received analgesia administered through intramuscular route, with only a few receiving intravenous analgesics. This method has an impact on pain perception and affects patient's satisfaction. This probably contributed to a large pain prevalence rate observed in this study. It was found that a patient who had analgesia administered intravenously was more likely to be satisfied with pain treatment as compared to the one whom analgesia was administered intramuscularly. Analgesia administered intramuscularly has been associated with increased postoperative pain few hours post surgery even when potent ones are used (12). The main problem with intramuscular route of analgesia administration is the unpredictable absorption of the drug particularly after surgery. Peripheral perfusion post surgery may be reduced and therefore uptake of analgesia from muscles prolonged, giving an uneven level of analgesia in the body (13). Post operative pain management effectiveness can be assessed using the level of satisfaction a patient has (14). In our study findings, despite a high prevalence rate of pain, the percentage of patient satisfied with pain treatment was very high. Similar findings have been reported in other studies (15). The most common analgesic drugs used in the first 24 to 48 hours post operative were pethidine and tramadol. The analgesic drugs were used either alone or in combination with each other. The limited availability of more analgesic drugs may have decreased freedom to choose from a range of available analgesia or prescriber's preference dominated the choice of analgesics used during this study period.

4. Conclusion

In conclusion, the postoperative pain is prevalent in the first 48 hours of surgery. The mode of analgesia prescription for postoperative patient should be modified. The use of analgesics should follow their pharmacological action in order to optimize their pain control effect. The analgesics may be used in combination taking advantage of their synergistic effect so that we optimize pain control to postoperative patients.

References

- [1] Breivik H, Stubhaug A. Management of acute postoperative pain: still a long way to go! Pain. 2008; 137(2): 233-4.

- [2] Karlsten R, Ström K, Gunningberg L. Improving assessment of postoperative pain in surgical wards by education and training. QualSaf Health Care 2005; 14(5): 332–5.
- [3] The American Society. Pain: current understanding of assessment, management and treatment. JAM; 2007.
- [4] Kehlet H, Dahl JB. Anaesthesia, surgery, and challenges in postoperative recovery. Lancet. 2003;362(9399):1921–1928.
- [5] White PF. Pain management after surgery – where is the disconnect? Can J Anaesth. 2008;55(4):201–207.
- [6] Apfelbaum JL, Chen C, Mehta SS, Gan TJ. Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. AnesthAnalg. 2003;97(2):534–540. 4
- [7] Werner MU, Søholm L, Rotbøll-Nielsen P, Kehlet H. Does an acute pain service improve postoperative outcome? AnaesthAnalg. 2002;95(5):1361–1372.
- [8] Kehlet H, Jensen TS, Woolf CJ. Persistent postsurgical pain: risk factors and prevention. Lancet 2006; 367:1618.
- [9] Young A, Buvanendran A. Recent advances in multimodal analgesia. AnesthesiolClin 2012; 30:91.
- [10] Benhamou D, Berti M, Brodner G, et al. Postoperative Analgesic Therapy Observational Survey (PATHOS): A practice pattern study in 7 central/southern European countries. Pain. 2008;136(1–2):134–141.
- [11] Buvanendran A, Kroin JS. Multimodal analgesia for controlling acute postoperative pain. CurrOpinAnaesthetol 2009; 22:588.
- [12] Jin F, Chung F. Multimodal analgesia for postoperative pain control. J ClinAnesth 2011; 13:524.
- [13] White PF. Multimodal analgesia: its role in preventing postoperative pain. CurrOpinInvestig Drugs 2008; 9:76.
- [14] Heit HA, Gourlay DL. Buprenorphine: new tricks with an old molecule for pain management. Clin J Pain 2008; 24:93.
- [15] Orman JS, Keating GM. Buprenorphine/naloxone: a review of its use in the treatment of opioid dependence. Drugs 2009; 69:577.

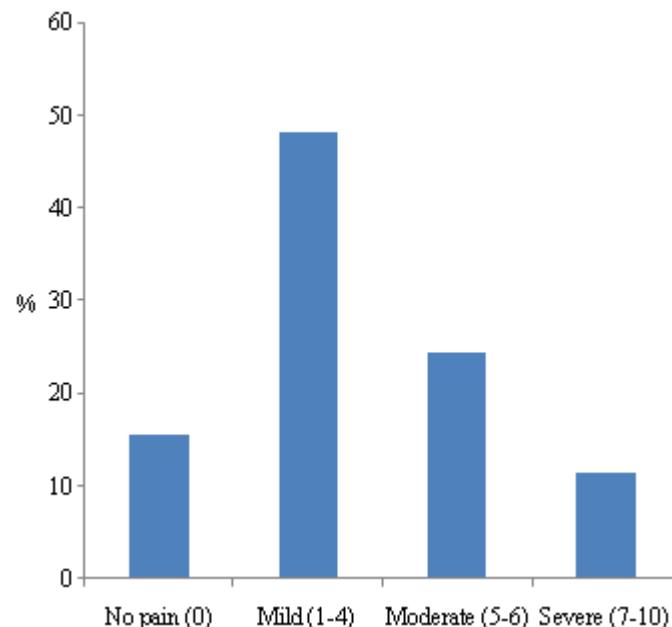


Figure 1: Percentage distribution of patients' pain scores done at 24 hours postoperative

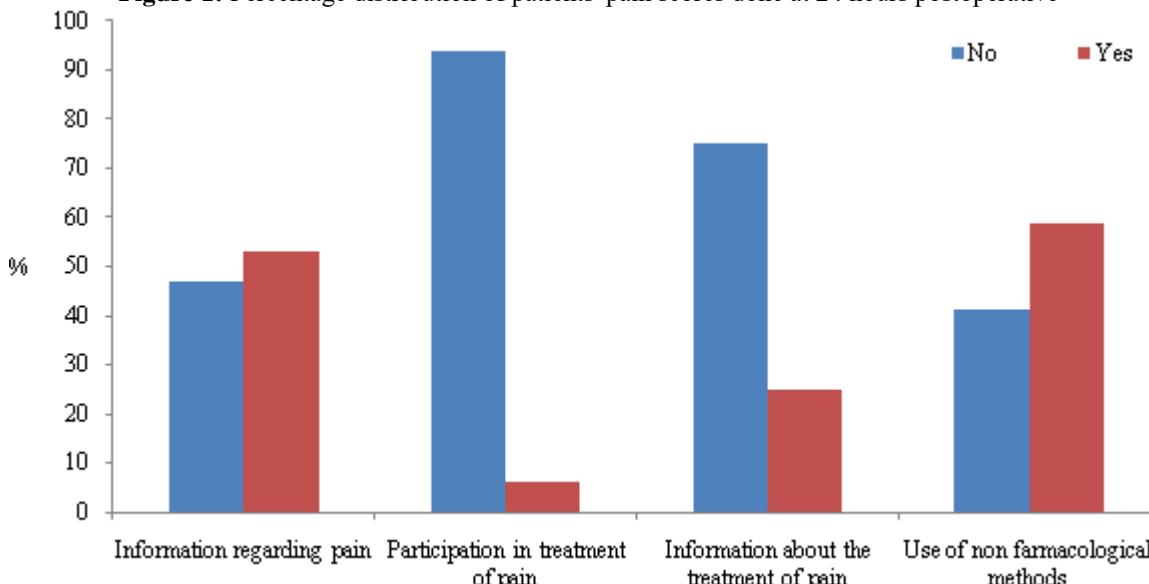


Figure 2: Information of patient about pain