

ACUTE POSTOPERATIVE PAIN MANAGEMENT BY A SURGICAL TEAM IN A TERTIARY CARE HOSPITAL: PATIENTS SATISFACTION

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Abstract

Objective: To assess the acute postoperative pain management by a surgical team and patient satisfaction in a tertiary care teaching hospital.

Patients and Methods: 105 patients, ASA I & II, both sexes, mean age of 35.1 ± 14.6 years, scheduled for general surgery under routine practice conditions, were included in the study. All patients were assessed 12 and 24 hours postoperatively by two numerical visual analogue scale (VAS 0-10), related to rest and dynamic pain. Patients were also requested to indicate their satisfaction level with the help of VAS. Data was analyzed by SPSS version 10. Student t test was applied to find significant differences between the groups.

Results: At 12 hours postoperatively mean rest and dynamic pain scores were 3.85 ± 2.45 and 5.32 ± 2.61 respectively. At 24 hours postoperatively mean rest and dynamic pain scores were 2.84 ± 1.86 and 4.65 ± 2.47 respectively. Overall, female patients experienced more pain but there was no statistically significant difference apart from rest pain at 24 hours. Forty-seven (44.8%) patients were very satisfied, 42 (40%) moderately satisfied and 16 (15.2%) patients were mildly satisfied with the pain management.

Conclusion: Overall management of acute postoperative pain by surgical team in a tertiary care hospital was satisfactory. Most of patients were moderately to very satisfied by the care provided.

Key words: Postoperative Pain, Acute, Patient Satisfaction, Surgical Team, Audit

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Introduction

Good quality care is considered to be the right of all patients and the responsibility of all staff within a hospital. One of the essential components of surgical patient care is effective postoperative pain control. Inadequate pain control, apart from being callous, may result in increased morbidity and mortality¹. Important goals for postoperative pain management are to minimize discomfort, facilitate the recovery process and avoid complications². Recognizing some of these concerns, a special congressional mandate declared 2000-2010 to be the Decade of Pain Control and Research, to generate increased understanding and awareness of pain³.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) implemented pain management standards in 2001 that recognized patients' rights to appropriate assessment and management of pain. In the JCAHO guidelines, examples of implementation include the addition of pain as the "fifth" vital sign to be noted in the context of initial assessment; the use of pain intensity ratings; and posting of a statement on pain management in all patient care areas⁴. In 2005, JCAHO National Patient Safety Goals promoted specific improvements in the use of medications and infusion pumps, among others. However, despite numerous regulatory initiatives and evolving advanced methods, postoperative pain remains a major challenge for many hospitals⁵⁻⁸. Detailed information about patient's assessments of pain and whether standards of pain management are being met are important factors to consider when identifying potential areas for improvement. Pain intensity is thought to be one of the primary factors that determine the impact of pain on a person's overall function and sense of well-being⁹.

For better management of postoperative patients, Acute Pain Service (APS) has been introduced in many countries¹⁰. This provides high quality of pain management service which results in significant improvement in pain management in surgical patients along with the reduction in side effects associated with the different modalities.

The first anesthesia based APS was introduced in Pakistan at Aga Khan University Hospital Karachi in 2001¹¹ but only few other hospitals have properly

functioning APS service. As there was no APS in our Institute, acute postoperative pain management became the responsibility of the surgical team. This study was planned to observe the results of routine management of postoperative pain by surgical team and to assess patient satisfaction.

Patients and Methods

The study was conducted in Surgical Unit II of Civil Hospital, Karachi in the period from October to December 2007 under routine practice conditions.. After obtaining patients' informed consent, 105 patients (65 males, 40 females), ASA I and II, mean age of 35.1 ± 14.6 years, scheduled for general surgery under routine practice conditions, were included in the study All patients were provided by routine analgesic medication with intravenous or intramuscular route. The Numerical Visual Analogue Scale (VAS) was used to measure pain intensity. Participants were instructed to select the number that best reflected the intensity of pain, (1 no pain and 10 the worst possible pain imaginable). This scale was selected because it is more commonly used in clinical practice and has been found to be a reliable and valid measure of pain intensity¹².

All patients were assessed at 12 hours and 24 hours postoperatively by two numerical visual analogue scales (resting and dynamic pain). Resting pain was defined as pain at the surgery site experienced by patient when they are not moving, while dynamic pain was pain experienced on movements like walking, coughing, deep breathing. Total analgesics used were also recorded. The patients were also asked to indicate their satisfaction level with pain management with the help of Numerical Visual Analogue Scale (1-10). All the data was collected in a specially designed proforma and analyzed by SPSS version 10. Student t test was applied to find significant between different groups.

Results

Surgical procedures of all patients is shown in Table I.

At 12 hours postoperatively mean rest and dynamic pain scores, were 3.85 ± 2.45 and 5.32 ± 2.61 respectively. At 24 hours postoperatively mean rest and dynamic pain scores were 2.84 ± 1.86 and 4.65 ± 2.47

Table I
Surgical procedures performed (n = 105)

Procedures	N
Abdominal surgeries	49
Hernias	23
Breast surgeries	12
Anorectal region surgeries	9
Testis and Scrotum surgeries	8
Thyroidectomies	4

respectively. All pain scores with standard deviation are shown in Table II.

Table II
Postoperative Rest and Dynamic pain scores

Pain	Mean ± SD
<i>Postoperatively 12 hr</i>	
Rest Pain	3.85 ± 2.45
Dynamic Pain	5.32 ± 2.61
<i>Postoperatively 24 hr</i>	
Rest Pain	2.84 ± 1.86
Dynamic Pain	4.65 ± 2.47

Total analgesics required during first 24 hours postoperative period are shown in Table III.

Pain scores difference between male and females is shown in Table IV.

Table III
Total analgesic drug usage during first 24 hours postoperatively

Drug (IM/IV)	Mean (mg)	Standard Deviation	Range
Diclofenac Sodium (n = 105)	147.89	31.35	75-225
Nalbuphine (n = 51)	13.96	7.45	3-30
Tramol (n = 24)	200	51.5	100-400

IM: Intramuscular; IV: Intravenous; mg: milligram

Overall female patients experienced more pain but there is no statistically significant difference apart from pain at rest at 24 hours.

Forty-seven (44.8%) patients were very satisfied, 42 (40%) moderately satisfied and 16

Table IV
Gender difference between pain scores and patients satisfaction

	Gender	Mean	SD	P value
<i>Postoperatively 12 hr</i> Rest Pain	Male	3.58	2.42	0.162
	Female	4.28	2.48	
<i>Postoperatively 12 hr</i> Dynamic Pain	Male	5.02	2.69	0.124
	Female	5.83	2.44	
<i>Postoperatively 24 hr</i> Rest Pain	Male	2.51	1.58	0.020*
	Female	3.38	2.16	
<i>Postoperatively 24 hr</i> Dynamic Pain	Male	4.40	2.45	0.191
	Female	5.05	2.47	
Patient Satisfaction	Male	6.57	2.82	0.508
	Female	6.20	2.67	

* Significant p < 0.05

(15.2%) patients were mildly satisfied with pain management (Table V).

Table V
Patients satisfaction with Pain Management

VAS*	Level of Satisfaction	n = 105	Percent
1-3	Mildly satisfied	16	15.2
4-7	Moderately satisfied	42	40.0
8-10	Very satisfied	47	44.8

* VAS: Visual Analogue Score

Discussion

It is essential that regular assessments of postoperative pain are performed in the postoperative period. In Sweden, documentation of pain care by nurses was made compulsory by law in 1986¹³. Clinical guidelines and quality programs are considered as essential tools to enhance postoperative pain management¹⁴⁻¹⁶.

Unfortunately in Pakistan, we do not have any national post operative pain management guidelines. Still worse is that we lack any institutional guideline about this important aspect of patient care. Despite all these facts, our study showed good quality of acute pain management by the surgical team. This should be seen with the understanding that we are using the conventional methods of pain management despite

global availability of modern techniques like Patient Controlled Analgesia, epidural or regional blocks. Being a government sector hospital, these modalities were routinely not used in our Department because of cost. Possible reasons of reporting less pain by our patients is the desire to be 'a good patient' as was observed by Lin et al, from Taiwan¹⁷, or patients anticipated postoperative pain and wanted to be considered cooperative..

Our results highlight the differences (although statistically insignificant) between the gender in the reporting of pain, with females reporting higher level of pain. These findings are consistent with findings from other studies^{18,19}. Whether the higher reported pain is due to the higher sensitivity in somatic responses to painful stimuli, or because it is more socially acceptable for females to express pain is yet to be determined^{20,21}.

Postoperative pain relief must reflect the needs of each patient since the final determinant of the adequacy of pain relief will be the patient's own estimation. A Swedish study showed that less than 10% of patient records contained notes on systematic assessment with a pain assessment instrument²². Several authors have reported that the treatment of postoperative pain is inadequate for many patients, some of whom still suffer moderate to severe pain^{8,23,24}. Equally shocking is that 38% of patients at a university hospital were readmitted following same-day surgery due to pain⁸. Klopfenstein et al²⁵ considered the reasons for poor postoperative pain management as insufficient education, training of staff and patients and lack of communication between them. There were also divergent attitudes, absence of systematic recordings, pain assessment done only at rest, and lack of public awareness.

Patient satisfaction is rapidly evolving as an important consideration in the field of postoperative pain management. Organizations such as JCAHO and The National Committee for Quality Assurance (NCQA) have introduced standards that list patient satisfaction as one of several performance yardsticks.

Most of our patients were moderately to very satisfied with our pain management. Chung, et al¹⁸ showed that 21% of postoperative patients were extremely satisfied and 66% were satisfied with the

degree of pain relief obtained. Twenty-eight (11.2%) were fairly satisfied, 4 (1.6%) were dissatisfied and 1 (0.4%) was extremely dissatisfied. All subjects received the prescribed dosage of analgesics, with the exception of 12 subjects who required an increase in their original prescribed dosage. Involvement of patients in their pain management might increase the awareness of pain but their satisfaction about postoperative pain control was significantly improved²⁶. Preoperative information and general condition affect the satisfaction with pain management as reported by Niemi-Murolo, et al²⁷. In their study 80% of patients were satisfied with pain management, and their satisfaction correlated significantly with received preoperative information and preoperative well-being.

There are different challenges in the assessment of patient satisfaction: the lack of correlation between satisfaction and pain ratings; patients often report high levels of satisfaction despite moderate to severe pain experience^{28,29}. Idvall³⁰ found that postoperative patients were very satisfied with the pain relief even if they reported severe pain in the previous 24 hours. This has been seen in other studies as well indicating that the level of pain does not correlate with the satisfaction of patients^{31,32}. This may be due to patient's expectations that pain will be experienced after surgery. Prior experience with postoperative pain may also play a role in patient satisfaction, with previous experience often serving as a yardstick. Patient satisfaction cannot therefore be used as the sole indicator of an effective pain service in hospitals.

Limitations of the Study

One limitation is the fact after different surgical procedures, patients experienced different levels of pain, which was not taken into account in this study. Another limitation is that the intraoperative analgesia requirement and the type of narcotic used may alter the postoperative pain. For future studies along those lines, therefore, we recommend that the monitoring of hemodynamic variables and side effects associated with the conventional pain management therapy be considered, as their incidence of pain may be higher in the absence of properly functioning APS.

Conclusion

Despite the fact that Acute Pain Service (APS) is not available in our Institute, postoperative pain management by surgical team is satisfactory. Most of the patients were moderately to very satisfied by the

care provided. Routine measurement of postoperative pain consistent with JCAHO requirements may result in much better patient care. This has the potential for improved pain management outcomes.

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