

SURVEY OF POSTOPERATIVE PAIN IN UNIVERSITY HOSPITAL KUALA LUMPUR

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ABSTRACT

One hundred and eighty-three patients undergoing surgery were interviewed twenty-four hours following surgery to assess the quality of pain relief they received in the immediate postoperative period. Interviews were conducted using a standard questionnaire for all patients. They were asked to (1) rate the quality of pain relief they obtained on a Visual Pain Analogue Scale (VPAS – 0 being no pain and 10 being the worst imaginable pain); (2) state whether they were happy and satisfied with the pain relief they received; (3) if dissatisfied, they were asked to give their reasons. 37.7% (69 patients) had moderate to severe pain – pain score greater than 6 on the VPAS. Most of these patients had undergone abdominal or major orthopaedic surgery. 32.7% (60 patients) were unhappy with their postoperative pain control. The main reasons for complaint from the patients were that analgesic injections were either not given promptly or were not given at all. The survey also highlighted the inadequate under-administration of narcotic injections in the postoperative period despite orders being written up. It showed there is an urgent need for setting up an Acute Pain Service for better postoperative pain control. An anaesthesiology based Acute Pain Service was started in October 1992.

Keywords: postoperative pain, opiate injections, acute pain service.

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INTRODUCTION

Many advances have been made in recent years in our understanding of the pathophysiology of pain, its role in the stress response to surgery and in the development of sophisticated drug delivery systems⁽¹⁾. However, in spite of this interest in the management of pain^(2,3), most patients undergoing surgery still receive treatment that has not changed in decades⁽¹⁾. Several surveys have shown that 30-40% of patients continue to suffer moderate to severe pain in the postoperative period^(4,6). Inadequate treatment of pain and inadequate utilisation of narcotics^(7,8) in the postoperative period are also widespread. In an effort to rectify this situation Acute Pain Services (APS)⁽⁵⁾ have been set up in many centres. This survey was undertaken to assess the adequacy or inadequacy of postoperative pain control, the extent of patient dissatisfaction in our hospital and to identify areas where improvement could be made when we set up an Acute Pain Service.

METHODS

The survey was conducted over a four-week period (January – February 1992) on patients undergoing surgery in University Hospital, Kuala Lumpur. All patients above the age of 12 years undergoing elective or emergency surgery were interviewed. Exclusion criteria were patients requiring

postoperative ventilation, patients admitted to Intensive Care Units (ICU), patients who were incapable of verbal communication following surgery and those undergoing minor surgery who stayed less than 24 hours in this hospital.

The patients were interviewed 24 hours after surgery using a structured questionnaire. The patients were asked to assess the severity of pain in the previous 24 hours on a modified Visual Pain Analogue Scale (VPAS). A score of 0 being no pain and 10 being the worst imaginable pain. Patients were also asked whether they were satisfied with the pain relief they received. If dissatisfied, they were asked to give their reason, selecting one or more from four options:

1. Analgesic injections (medication) not given.
2. Analgesic injections not given promptly when requested.
3. Analgesic injections given promptly but not very effective.
4. Did not want injections.

Demographic data about the patients with regard to their age, sex, weight, race and type of surgery were extracted from the patients' case notes. Particulars about the type and frequency of analgesia ordered and the actual amount and route of analgesia received by the patients were noted from the patients' medical charts.

RESULTS

One hundred and eighty-three patients were interviewed and included in this survey. There were 76 men and 107 women. The mean age was 41 years, (range from 12 – 87 years). The mean weight was 58.0 kg, (range from 30 – 105 kg). Of the patients surveyed, 85 were Chinese, 59 were Indians, 33 were Malays and 6 were others. Fig 1 gives the details of Pain Scores in all the patients surveyed while Table I gives the details about the types of surgery, number of patients undergoing different operations, the number of patients who had pain scores of 6 or greater and the number of patients who were dissatisfied with their pain control. Sixty-nine patients (37.7%) scored 6 or greater on the VPAS indicating that they suffered from moderate or severe pain following surgery.

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Fig 1 – Showing pain score of all patients

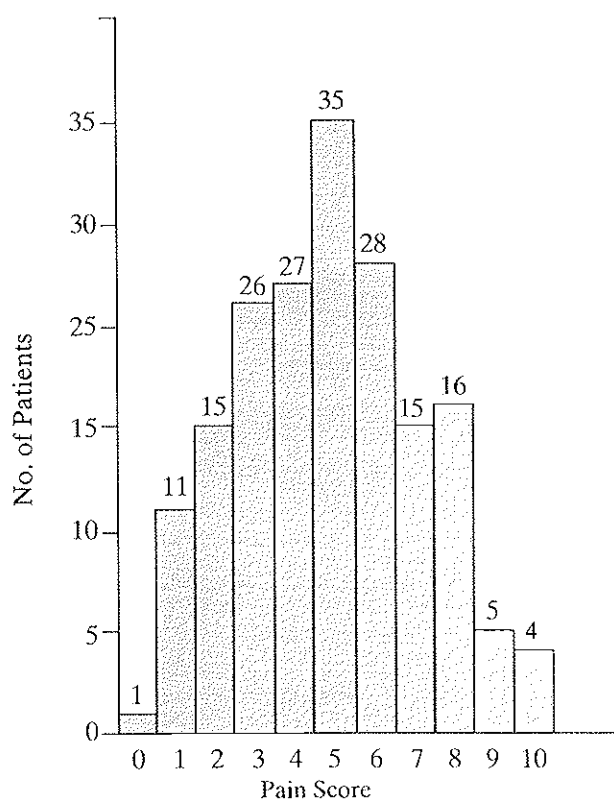


Table I – Type of surgery, number of patients with pain scores > 6, number of patients dissatisfied with pain relief.

Type of Surgery	No. of patients	No. with Pain score > 6	No. not happy with relief
Head & neck	38	6	7
Spinal	5	2	2
Abdominal	64	33	27
Limb incl hips	53	20	20
Genito-urinary	23	8	4
Total	183	69 (37.7%)	60 (32.7%)

Sixty (32.7%) patients were dissatisfied with the quality of pain relief they received. The reasons for their dissatisfaction are shown in Table II. 41.7% of these 60 patients said that they did not receive any analgesic injections for their pain. Analgesic medications not being given promptly was the next most common complaint.

Table II – Reasons for dissatisfaction in the 60 patients who were unhappy with their pain relief.

Reasons	No. of patients	%
Analgesia not given	25	41.7
Analgesia not given promptly	21	35.0
Analgesia given but ineffective	13	21.6
Did not want injections	1	1.7
Total	60	100.0

Of the 183 patients surveyed, only 142 patients (77.5%) had prescriptions written out for postoperative analgesia. Pethidine was prescribed in 125 patients (110 patients –

intramuscularly – IM, 4 patients via the epidural route, 11 patients by the subcutaneous route). Either Pentazocine – IM, or mefemanic acid orally or epidural buprenorphine was prescribed in the other 17 patients.

When the opiate pethidine was prescribed by the IM route, “6 hourly PRN” was the commonest mode written up (56.3% – 62 patients). Of these 62 patients, the majority of them (74.2%) received either one or no injection in the 24-hour period (Table III). Eight patients who had pain scores of 6 or greater did not receive any injections of any analgesic although “PRN pethidine” was written up.

Table III – Frequency of intramuscular injections of Pethidine given in the 62 patients with “6 hourly PRN” orders.

No. of times given	No. of patients	%
0	28*	45.2
1	18	29.0
2	11	17.8
3	2	3.2
4	3	4.8
Total	62	100.0

*8 of these patients had pain scores > 6

Table IV gives a breakdown of the patients pain scores according to their ethnic background. The Indian patients appear to have an increased incidence of higher pain scores. However, the differences between races was not statistically significant on the chi-square test.

Table IV – Incidence of pain scores > 6 in the various races.

Race	No. of patients	No. of patients with pain scores > 6	%
Chinese	85	28	32.9
Indian	59	28	47.5
Malay	33	12	36.4
Others	6	1	16.6
Total	183	69	

p > 0.05 – not significant.

DISCUSSION

It is evident from our survey that more than one-third of our patients suffered from moderate to severe pain following surgery. Patients undergoing intra-abdominal surgery (47.8%) and major orthopaedic surgery (28.2%) form the majority of these patients. This under treatment of postoperative pain is, however, not peculiar to our hospital. Donovan⁽⁶⁾ quotes a similar figure in his survey of 200 patients in the postoperative period. Some others have reported a larger percentage of patients suffering pain in their series. Cohen FL⁽⁹⁾ in a review of patients in five large hospitals in Illinois, USA reported 75.2% of patients hospitalised for elective abdominal surgery suffered moderate to severe distress.

As expected, these patients who were in distress (VPAS > 6) were dissatisfied and unhappy and would have preferred better pain control. Although 69 patients complained of

moderate to severe unrelieved pain, only 60 of them were dissatisfied. This is probably because patients expect to have pain following surgery⁽⁵⁾, their expectations for adequate pain control are usually not high⁽⁵⁾ and they were not disappointed in that!

The reasons noted for dissatisfaction are also not unusual. Under dosage with narcotics in the postoperative period is not unusual. Sriwatanakul et al⁽⁷⁾ in their review of 526 medical records found that patients received only 70% of the maximal ordered analgesics in the first 24 hours and a large number of patients suffered from at least modern pain. Traditional attitudes of the nursing staff, their fear of addiction and fear of respiratory depression could account for this gross under-administration of potent opiate injections⁽⁸⁾. We noted from the patients' records that 25 patients (41.0%) who were dissatisfied were not given any analgesics at all. Analgesic injections not being given at all could also be due to the difference of opinion between the nurses and patients as to the degree of pain felt by patients⁽⁹⁾.

Analgesia not given promptly was another source of dissatisfaction. Potent opiates are kept locked in cupboards and two staff nurses need to countersign the narcotic usage book before the drug can be administered. These procedures, although necessary, can delay the administration of opiates to relieve pain. In addition, most patients do not request for analgesia till they are in a lot of distress. Intramuscular injections of pethidine has a varying time to achieving peak plasma levels (0.2 – 1.3 hours)⁽¹⁰⁾. Austin et al⁽¹¹⁾ also demonstrated that there was a wide interpatient variability in the plasma pethidine concentration and analgesic response. All these factors could have accounted for the delay in achieving adequate analgesia and resulted in the patients expressing their views that analgesics were not given promptly or, when given, were ineffective.

Analgesic orders for postoperative pain were also varied and in general inadequate. Twenty-three percent of those surveyed did not have any analgesics written up. In 68% of the patients who had potent narcotics written up, "6 hourly PRN" intramuscular pethidine was the order. This puts the responsibility for administering the drug on the ward nursing staff and as indicated above can be less than satisfactory. Most of the analgesic orders are usually written up by the most junior members of the surgical team (house man) who tend to forget that the duration of analgesia of intramuscular pethidine is about 3 – 4 hours⁽¹⁰⁾.

There have always been anecdotal experiences among some doctors and nursing staff that the Indian patients tend to have a lower threshold for pain and that they complain more. Although the incidence of higher pain scores were greater in the Indian patients surveyed, this did not reach statistical significance when compared with the other races. The sample size may not have been large enough. Proper controlled studies with strict criteria and stratification into socio-economic grouping, type of surgery, duration of surgery and type of anaesthesia need to be carried out to test this general hypothesis.

CONCLUSION

Our study has shown that there is an urgent need to improve the quality of postoperative pain control in our patients. There is also a need to provide better and more comprehensive training to our junior medical officers and nurses in postoperative pain management. Over the last few years there has been recognition among anaesthesiologists and surgeons that postoperative pain should be managed

by specially dedicated teams. Ready et al⁽⁵⁾ have recently written about the development of an anaesthesiology based APS and how it can be implemented in general wards. This survey has also achieved its objective in establishing that there is a need to have an APS in our hospital. Besides the management of postoperative pain, this service should provide in-service training to our nurses and junior doctors. An anaesthesiology based APS has been implemented in our hospital since October 1992. In the first nine months 380 patients have been managed following major abdominal or orthopaedic surgery.

The Acute Pain Service

Discussions were held with the hospital administration, surgeons, chief matron and chief pharmacist about the need for implementing this service. Ward nurses were briefed about the techniques to use, the patient monitoring and narcotic documentation that would be required and the forms to use.

The APS team consists of a consultant anaesthesiologist who is responsible for its activities. One medical officer who is on the Masters of Anaesthesiology programme rotates through the service in blocks of one or two weeks so that all postgraduates in the department can acquire experience in relieving postoperative pain. Protocols were drawn up and special APS forms printed for proper documentation of analgesic orders and for patient monitoring. A special hospital pager was acquired so that the APS team doctor could be contacted.

Postoperative pain relief is initiated in the post-anaesthetic recovery room. Pain rounds are made every morning by the team and the medical officer makes an evening round. In addition, the team is available for dealing with any problem that may arise. The senior medical officer on call is available to take care of these patients at night, if necessary. In the first nine months (October 1992 to June 1993) the APS has managed 380 patients, the majority of whom were after abdominal or orthopaedic surgery.

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