Expectations, Experiences and Attitudes of Orthopedic Patients Undergoing Arthroscopic Cruciate Ligament Reconstruction toward Postoperative Pain and Its Management

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Objective: *To evaluate expectations, experiences, and attitudes of orthopedic patients undergoing arthroscopic cruciate ligament reconstruction in terms of postoperative pain and management.*
Material and Method: *This prospective study involved 115 patients. Preoperatively, patients completed a preoperative questionnaire regarding expectations toward postoperative pain and management. Postoperatively, they completed a postoperative questionnaire regarding exact pain experiences and attitudes in relation to their pain and management.*
Results: *Almost all expected (95.6%) and experienced (98.3%) pain. The median values of maximum and average pain measured by a verbal numerical rating score were 7.7 and 5.6, respectively. Approximately 3/5 reported marked and maximum relief from analgesics received. Only one patient was not satisfied with pain management while the rest were satisfied in varying degrees. A large proportion showed incorrect conceptions concerning postoperative pain and management.*
Conclusion: *Postoperative pain management is still an area for improvement. Misunderstandings of patients should be explored and corrected as they can pose a barrier for effective pain relief. Pain management should begin with preoperative explanations and advice followed by good care intraoperatively and postoperatively.*

Keywords: *Expectations, Experiences, Attitudes, Arthroscopic cruciate ligament reconstruction, Postoperative pain, Postoperative pain management*

J Med Assoc Thai 2010; 93 (11): 1268-73
Full text. e-Journal: *http://www.mat.or.th/journal*

Although postoperative pain is common and pain management has much improved, studies from many countries[1-9] revealed consistent results of insufficient postoperative pain relief. The problem is undoubtedly widespread.

Inadequately treated postoperative pain leads to a considerable number of adverse consequences physically and psychologically[10-12]. Recovery is one of the dimensions affected by postoperative pain, and inadequate acute pain management can affect negatively on the long-range quality of life[13]. Acute pain can also evoke long-term neuronal remodeling and sensitization of the central nervous system[10]. Severe acute postoperative pain is one of the risk factors predisposing to chronic postsurgical pain (CPSP)[14-16], which has a substantial impact on quality of life, and treatment of chronic pain is more time-consuming and costly[17].

Optimal postoperative pain relief is not only based on analgesics and interventional techniques[18], but is also tied to patients' attitudes and beliefs, and cooperation[19]. The present study aimed to evaluate patients' preoperative expectations toward post-operative pain and its management as well as their actual postoperative pain experiences and attitudes regarding postoperative pain and management. The results of this will be utilized to improve postoperative pain control.

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Material and Method

The present study was performed in the university-based medical school in the southern part of Thailand, which is also the tertiary care center for the region. The research scheme was approved by the faculty ethics committee. Each participating patient signed an informed consent form before entering the present study.

Patients undergoing arthroscopic cruciate ligament reconstruction between July 2007 and November 2008 were included. Unwilling patients to participate or those unable to communicate were excluded.

Within 72 hours prior to their scheduled operation, each patient was contacted via telephone to answer a preoperative questionnaire regarding demographics, expectations toward postoperative pain, the level of expected pain at which the patient would request analgesics, and the expected extent of pain relief from analgesics received. Twenty-four hours following surgery, while the patients were still admitted in the hospital, each patient completed a postoperative questionnaire regarding their actual pain experiences, analgesic requirements, and pain relief effects. The second questionnaire also comprehended items determining the patients' attitudes toward postoperative pain and management, together with whether they were satisfied or dissatisfied with the provided pain care, and reasons for their feelings.

Data of the present study were recorded with Epidata version 3.0 and analyzed using Program R version 2.8.0.

Demographic data were demonstrated as percentages, median, mean, range, and standard deviation. Levels of pain were measured using a verbal numerical rating score [VNRS (0-10)] and a categorical [verbal descriptive score (VDS)] rated as very mild, mild, moderate, severe, and very severe.

Results

Patients' demographic data

One-hundred and fifteen patients participated in the present study. The majority (102 in 115, 88.7%) were male. The mean age was 31.8 years (range of 17 to 51). Seventy-eight patients (67.8%) had no history of a previous operation. The average duration of surgery was 62.2 minutes. Spinal anesthesia was performed in nearly all of the participants (113 in 115, 98.3%) while general anesthesia was carried out in the rest. Postoperative pain relief was managed on an as-needed basis with paracetamol, non-steroidal anti-inflammatory drugs, morphine, or fentanyl.

Pain expectations

Almost all (110 in 115, 95.6%) patients expected postoperative pain. Their average expected pain as measured by the VNRS was 5.7, and by the VDS indicated 1.7%, 10.4%, 62.6%, 24.4%, and 0.9% anticipated very mild, mild, moderate, severe, and very severe pain, respectively.

The patients predicted they would ask for analgesics when their VNRS reached 6.5, with 4.4%, 42.6%, 37.4%, and 15.6% estimating to request analgesics when they had mild, moderate, severe, and very severe pain, respectively.

Pain experiences

Nearly all (113 in 115, 98.3%) actually experienced postoperative pain with a median maximum VNRS of 7.7, with 1.7%, 4.4%, 14.8%, 54.8%, and 24.3% indicating they experienced pain at very mild, mild, moderate, severe, and very severe levels, respectively. The median average VNRS the patients experienced was 5.6, with 2.6%, 13.0%, 45.2%, 38.3%, and 0.9% reporting average levels of their pain as very mild, mild, moderate, severe, and very severe, respectively.

The median VNRS at which the patients requested analgesics was 6.5, with 38.3%, 59.1%, and 2.6% stating they required analgesics when their levels of pain were moderate, severe, and very severe, respectively.

When asked about their opinions concerning to what extent their analgesics actually relieved their pain, 8.7%, 34.8%, 52.2%, and 4.3% rated the effectiveness as little, moderate, a lot, and maximum, respectively.

Around 4/5 (81.7%) reported their sleep was disturbed by pain, and approximately 2/5 wanted to receive stronger analgesics (37.4%) or more frequent administrations (40%).

Satisfaction

Approximately half (58 in 115, 50.4%) indicated they were markedly satisfied with their postoperative pain management, while 7%, 36.6%, and 5.4% accounted their satisfaction as maximum, moderate, and mild, respectively. The reasons for their satisfaction are demonstrated in Table 1. One patient (0.9%) indicated dissatisfaction because he desired a higher dose of analgesic.

Table 1. Reasons for satisfaction with postoperative pain management (114 participants)

Reasons	No. (%)
Believed that postoperative pain was inevitable	112 (98.2)
Expected postoperative pain would be more severe than what was actually experienced	70 (61.4)
Understanding the reasons that led to postoperative pain	89 (78.1)
Knowing that postoperative pain was improving with time	94 (82.5)
Had experienced more severe pain	27 (23.7)
Wanted to please health care providers	2 (1.8)

Table 2. Patients' attitudes and beliefs toward postoperative pain and its management (115 participants)

	Strongly disagree (No., %)	Disagree (No., %)	Unsure (No., %)	Agree (No., %)	Strongly agree (No., %)
Pain normally occurs after surgery	0	0	0	104 (90.4)	11 (9.6)
Postoperative pain improves as time passes by	1 (0.9)	1 (0.9)	2 (1.7)	98 (85.2)	13 (11.3)
Analgesics cannot relieve pain	5 (4.4)	91 (79.1)	9 (7.8)	10 (8.7)	0
Good patients should avoid talking about pain	4 (3.5)	59 (51.3)	7 (6.1)	44 (38.3)	1 (0.9)
Analgesics should be saved until pain gets worse	0	7 (6.1)	1 (0.9)	103 (89.6)	4 (3.5)
Patients can easily get addicted to analgesics	2 (1.7)	70 (60.9)	30 (26.1)	13 (11.3)	0
It is easier to tolerate pain than the side effects of analgesics	0	54 (47)	14 (12.2)	47 (40.9)	0

Attitudes of the patients regarding postoperative pain and its management are shown in Table 2.

Correlation between expected and experienced pain

Approximately one-third affirmed their levels of expected and experienced pain were identical. Of those stating differences, 31.3% and 37.4% had less and higher pain than their expectations, respectively.

Discussion

The finding discovered that the participants preoperatively expected postoperative pain and actually experienced pain postoperatively. The mean maximum pain quantified by VNRS was high and the mean value of average pain was substantial. The greater part satisfied with postoperative pain relief in varying degrees. Their attitudes regarding post-operative pain and management were interesting, as many had misconceptions.

In the present study, almost all expected and actually experienced postoperative pain. Expected pain has been found to have a predictive value for postoperative pain[20]. Their mean value of maximum pain reached 7.7, which is considered as severe[21]. It is interesting that although their pain levels were high, the majority did not want to receive stronger analgesics nor more frequent administrations, a phenomenon also noted in another study[8].

Only one-third expected and experienced the same levels of postoperative pain. Among these who reported a disparity, more than 50% experienced higher pain than expected. The result is different from another study performed by Nimmaanrat S et al, in which 71% of patients who reported differences between expected and experienced pain had less pain than expected[8].

The present study demonstrated that though the pain was severe, only one patient was dissatisfied. The result is in conjunction with previous studies[2-4,22-25]. Satisfaction is multifactorial[26], the relevance of satisfaction as an optimal outcome measurement in quality assurance processes might be doubtful[23].

"Staff-pleasing-factor"[22] must be taken into account while interpreting patients' satisfaction. It is a factor commonly found in Thais, as they wish to pay respect and be nice to people who help or take care of them, but may be less so elsewhere.

The very high proportion agreed that postoperative pain was something occurring naturally

as a result of surgery, in accordance with previous studies[1,24]. However, with available medical service, such pain can be adequately controlled. Preoperatively, advising the patient about postoperative pain management options was suggested, and that it played a major role in effective management. Preoperative information has been shown to assist patients' active participation in their care, and thereafter may lead to more satisfaction[27].

It is a master of concern that some patients agreed that analgesics could not ease pain. Possible reasons may be related to the patients themselves, health care workers (negative attitudes, etc.) or the system of health service (limited resources, etc.). Education should be a priority for both health care professionals[28,29] and patients[29].

It is very interesting that many of them agreed that good patients should avoid complaining about pain, which is in accordance with a previous study[8]. It is a feature of Thai culture that Thais think that they should not waste the time of health care professionals by complaining of their pain. They may feel their health care professionals should not spend a lot of time on their personal pain because they will then have less time for other patients who may be in more need. It has been found that culture can influence the expression of pain[30] while ethnicity influenced experimental pain[31]. In chronic pain patients, race has been found to affect pain reporting, opioid requirements[32] and coping skills[33]. Such attitude was considered as an area to be addressed for improvement of pain management.

Some patients agreed that they could get addicted to analgesics easily, in agreement with a previous study[34]. The duration of acute postoperative pain is short so it is unlikely to get addicted to analgesics.

A significant number believed that tolerating postoperative pain was easier than to tolerate the side effects of analgesics. It has been well recognized that every patient has the right to effective postoperative pain control, as well as to avoid and get relief from other adverse effects. Multimodal analgesia has been confirmed to improve the adequacy of postoperative pain control while minimizing side effects[35].

The strengths of the present study are a preoperative/postoperative study design, procedure-specific and a large sample size (more than 100 patients). It also provides cross-cultural data that could improve the understanding of perceptions of postoperative pain management.

On the other hand, the present study has some limitations. The studied patients may not represent the population at large. The majority was male and it has been clarified that men and women have a different pain threshold and tolerance[36]. Different ethnicities, races, cultural traditions, types of surgery, varieties of hospitals and health care services may lead to different results. Additionally, attitudes, knowledge and prescribing habits of physicians have also been shown to affect adequate pain management[37]. More sophisticated and larger scale studies including a wide variety of patients and health care providers are suggested to advance the understanding and to help improve the quality of the health care service.

In conclusion, the present study demonstrated that the patients expected and truly experienced postoperative pain following arthroscopic cruciate ligament reconstruction. Their intensities of pain were high measured by both the VNRS and VDS, but the majority of them were satisfied with the pain relief provided. Many of them held misconceptions toward postoperative pain and its management. Postoperative pain management is an area in which there is still considerable room for improvement, particularly in the way to deal with the patients' knowledge, attitudes, and expectations prior to surgery.

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ความคาดหวัง ประสบการณ์ และเจตคติของผู้ป่วยออร์โธปิดิกส์ที่รับการผ่าตัดสร้างเอ็นไขว้หน้าข้อเข่า โดยการส่องกล้องต่อความปวดหลังการผ่าตัด และการระงับปวด

ศศิกานต์ นิมมานรัชต์, บุญสิน ตั้งตระกูลวนิช, ธันต์ชนก วนสุวรรณกุล, ธนะรัตน์ บุญเรือง

วัตถุประสงค์: *เพื่อประเมินความคาดหวัง ประสบการณ์ และเจตคติของผู้ป่วยออร์โธปิดิกส์ที่รับการผ่าตัดสร้างเอ็นไขว้หน้าข้อเข่า โดยการส่องกล้องต่อความปวดหลังการผ่าตัดและการระงับปวด*

วัสดุและวิธีการ: *มีผู้ป่วยเข้าร่วมการศึกษาแบบมุ่งหน้านี้ 115 ราย ผู้ป่วยตอบแบบสอบถามก่อนการผ่าตัด เกี่ยวกับความคาดหวังต่อความปวดหลังการผ่าตัดและการระงับปวด หลังการผ่าตัดเสร็จสิ้น ผู้ป่วยตอบแบบสอบถามเกี่ยวกับประสบการณ์และเจตคติต่อความปวดและการระงับปวด*

ผลการศึกษา: *ร้อยละ 95.6 และร้อยละ 98.3 ของผู้ป่วยคาดหวังและมีความปวดหลังการผ่าตัด ค่าเฉลี่ยของความปวดสูงสุด และความปวดโดยเฉลี่ยประเมินโดยใช้คะแนนความปวดเท่ากับ 7.7 และ 5.6 ตามลำดับ ประมาณ 3/5 ของผู้ป่วยได้รับผลการระงับปวดมากถึงมากที่สุด ผู้ป่วยเพียง 1 ราย ไม่พึงพอใจต่อการระงับปวดที่ได้รับในขณะที่ผู้ป่วยที่เหลือมีความพึงพอใจต่อการระงับปวดในระดับที่หลากหลาย ผู้ป่วยจำนวนมากมีความเข้าใจที่คลาดเคลื่อนต่อความปวดหลังการผ่าตัดและการระงับปวด*

สรุป: *การระงับปวดหลังการผ่าตัดเป็นจุดที่ควรได้รับการปรับปรุง ควรแก้ไขความเข้าใจที่คลาดเคลื่อนของผู้ป่วยต่อความปวดหลังการผ่าตัดและการระงับปวด เนื่องจากความเข้าใจที่ไม่ถูกต้องเป็นอุปสรรคของการระงับปวด การระงับปวดควรเริ่มตั้งแต่การให้คำแนะนำก่อนการผ่าตัด ตลอดจนให้การดูแลที่ดีต่อเนื่องทั้งในระหว่างและหลังการผ่าตัด*