General considerations

Introduction and general approach to pain

JAMES DUCHARME

Topics

- Becoming comfortable with treating pain
- General principles of pain assessment
- General principles of pain management

Introduction

Emergency physicians are frequently very busy at work. There is little time to make use of a standard reference text to find material that may be relevant to the patient in front of us. Many such texts, while invaluable at providing comprehensive evidence necessary to stay up to date, are not always user-friendly for immediate bedside care. This book hopes to provide a hands-on resource, by providing the clinician with practical information on pain management that can be used while working.

This book is intended to guide decision-making for the care of individual patients. Its main goal is to give an evidence-based set of recommendations – without implying they are the *only* "right" answers – for various painful conditions encountered in the acute care setting. The text also aims to overview clinically relevant aspects of some general topics such as pain management in various populations.

Research and medical knowledge being the incomplete and evolving entities that they are, the available evidence may be of poor or even conflicting quality. The authors have been asked to wade through analgesia research, interpreting and incorporating the literature into their most reasonable practical recommendations for pain management. The intent of the authors is not to try and exhaustively critique the evidence. Rather, their goal is to present the best possible scientific basis for pain management decisions that must be made today, regardless of the quality of available data.

No text of the brevity and practicality envisioned for this book could be sufficiently comprehensive to cover all possibly acceptable approaches. By making specific recommendations when evidence may be poor, conflicting, or absent, authors will necessarily be somewhat subjective, and there will inevitably be room for disagreement. Finally, however, clinicians must make decisions about the patients in front of them. This book aims to help users to do just that.

Becoming comfortable with treating pain

Knowledge of analgesics should be a core area for our practice – up to 70% of ED patients register with a primary complaint of pain.[1] Unfortunately, pain education in medicine lags behind other areas. Many physicians graduate from medical school with almost no training in pain management or analgesic use. Attitudes such as opiophobia accompany us as we enter training and are often reinforced by the training we receive.[2] Lack of knowledge and, even more importantly, lack of understanding leave us unprepared. We often do not recognize how our own cultural and moral beliefs can negatively impact on patient pain management. For instance, when emergency physicians were surveyed about the incidence of addiction among sickle cell patients suffering from vaso-occlusive crises, 53% felt that more than 20% of patients were addicted, although the actual addiction rate is less than 2%.[3] Such beliefs can only be corrected if we learn how to differentiate drug-seeking behavior derived from oligoanalgesia – as is the case with sicklers – from similar, but not identical, behavior seen with addicts. It is only with such knowledge that our comfort level can improve, while our distrust of patients seemingly always in severe pain can diminish.

A nurse once said to me, "The patients always say their pain is 10/10, how can we believe them?" The answer is often so obvious as to be invisible: why come to an ED if pain is minimal? Every elderly patient we see in the ED is ill, but we do not infer that all elderly people are sick. Similarly, although a large portion of society suffers from chronic pain, most people do not. Our practice sees patients at their worst. They are in pain, afraid, and ill or injured. Let us not ever forget that as we apply the excellent advice seen in the following pages.

Since no physician consciously chooses to see a patient suffer, oligoanalgesia arises from unrecognized beliefs and attitudes.[2,4] For optimal application of the recommendations of this book, any such beliefs must be either unlearned or recognized and accounted for in day-to-day practice. If we do not believe the patient who says his pain is 10/10, then it does not matter how many times we document it: we still will not improve that patient's pain.[5] We must all come to accept that the vast majority of patients coming to an ED are in pain. Patients with true drug-seeking behavior create an emotionally charged atmosphere, thereby leaving the impression of being a large part of our practice. They, in fact, represent about 1% of our patient population.[6]

Pain management in EM has improved tremendously as we have become more aware of our past inadequacies. Excellent research, including many studies conducted by authors in this book, has allowed us to provide better care. It is now standard care to provide analgesia for patients with undifferentiated abdominal pain while performing necessary investigations.[7] New frontiers, such as nurse-initiated analgesics while the patient is in triage or with the use of delegated acts, are growing rapidly.[8–11] Patients in many EDs are now routinely provided topical or local anesthesia for simple (yet painful) procedures such as placement of intravenous catheters or nasogastric tubes.[12,13] It is hoped that, by providing practical information on analgesia, this book can further the goal of making all acute care providers comfortable treating pain.

General principles of pain assessment

The subject of ascertainment of pain levels is sufficiently important to warrant its own chapter in this text. Some general principles are outlined here. The Joint Commission on the Accreditation of Healthcare Organizations has mandated documentation of pain levels for patients in the ED.[14] That mandate cannot make us believe the patient, nor can it ensure that our assessment will agree with the report of pain by the patient. More than 15 years ago, Choiniere and colleagues reported that healthcare workers consistently scored pain at a different level to that scored by the patients.[15] Recent literature shows that even seasoned physicians inaccurately assess patients'

pain levels. In fact, discrepancy between pain scores assigned by patients and physicians increases with provider experience.[16]

We have to remind ourselves constantly that the patient hasn't previously suffered a hundred broken tibias or episodes of trauma – the painful episode prompting the current ED visit may be the first ever of such intensity for that particular patient. Furthermore, patients (such as sicklers) with recurrent painful episodes may believe pain justification behavior is the only way they can convince us to appreciate the degree to which they are suffering. Finally, we must remember that fear and the impression of loss of control will further increase any pain sensation. Pain scores are uni-dimensional tools. They do not and cannot account for any of the above emotional overlay. Pain scores can be guides, but as with any guide they have to be believed to be followed.

The most important pain score is the first one. Scoring of pain at arrival should be used as part of a comprehensive triage tool to ascertain maximal times to physician assessment. Triage pain scores can also be used to initiate nurse-driven pain treatment protocols. After the initial pain score, further pain scoring (with few exceptions) should either not occur or play a minor role in determining need for further analgesia. The risk with longitudinal pain scoring lies in having pain management endpoints defined by an arbitrary number, rather than by the patient. As is the case with pain reporting, pain management endpoints should be patient driven. Healthcare workers should allow the patient to choose how much (or how little) pain they wish to continue to have. Patients rarely wish to have no pain; they wish to be comfortable and functional. Depending on home or work requirements, patients may be willing to have a higher degree of pain in order to avoid any adverse effects of medication. Instead of repeating pain score assessments, a patient's comfort needs may be better met by simply asking "do you want more pain medication?"

General principles of pain management

In many situations, expedited pain control can and should be achieved. Patients with any severe pain, especially those with renal colic, migraine headache, vaso-occlusive sickle crisis and breakthrough cancer pain should

expect – and receive – rapid pain control. If an ED has prolonged waiting times or excessive delays, protocols that allow pain management prior to physician assessment should be considered for patients with such diagnoses. Other indications for advanced pain management directives could include obvious fractures, burns or amputations.

Clinicians should insure that, in cases where proffered analgesics are declined, the refusal is not caused by patients' own barriers to accepting clinically indicated medication. Providers should also keep in mind exceptions to the rule of patient self-determination of analgesia endpoints. Examples of situations in which complete pain relief should be sought include acute myocardial infarction, where no pain is acceptable, and migraine headaches, where discharge with pain is associated with increased chance of recurrent cephalalgia.[16,17]

Even when a physician sees a patient quickly, there may still be unacceptable delays to adequate pain management. Clinicians who routinely order titrated opioids for pain control may be unaware of intrinsic departmental barriers to rapid titration. Nursing workload may mean that an order for opioids "every 10 min as needed" results, operationally, in administration of medication at much longer intervals. Every ED should consider flow studies in order to identify specific barriers to the rapid delivery of titrated analgesics.

While initiation of analgesics is improving, we need to improve our rate of recurrent analgesic provision. In one study, only 15% of patients with polytrauma received more than one dose of analgesic.[18] We need to address our inability to treat pain adequately in specific subgroups: young children, the elderly, the cognitively impaired, and the polytrauma patient.[19] By applying standard approaches as described in this book, we can certainly further improve our pain management.

There is no such thing as "one drug fits all." Given genetic variation in relevant physiology (e.g. mu opioid receptors), it is important we know about many drugs in each class of analgesic.[20] It is more than likely clinicians will encounter patients who are unable to respond to certain analgesics. Before thinking "drug seeker," remember "genetic variability" it is entirely possible; that the patient being seen in ED cannot benefit from a specific medication that is known to be helpful (usually) for a given condition. It is equally

important to remember that, for many types of severe pain (e.g. renal colic), combination therapy is superior to monotherapy.[21]

We can see that pain management is like any aspect of medicine: physician knowledge, physician experience, and patient expectation must all be combined to ensure optimal care. Too often our knowledge of pain management fails us – this book will certainly go a long way to correct that weakness. Failure to believe and include the patient is another reason for oligoanalgesia and patient dissatisfaction. Finally, we must all recognize that we each bring our own biases and experiences to the bedside … it is up to us to determine if those biases and experiences aid rather than harm our patients.

References

1. Johnston CC, Gagnon AJ, Fullerton L, *et al.* One-week survey of pain intensity on admission to and discharge from the emergency department: a pilot study. *J Emerg Med.* 1998;**16**:377–382.
2. Weinstein SM, Laux LF, Thornby JI, *et al.* Medical students' attitudes toward pain and the use of opioid analgesics: implications for changing medical school curriculum. *South Med J.* 2000;**93**:472–478.
3. Shapiro BS, Benjamin LJ, Payne R, *et al.* Sickle cell-related pain: perceptions of medical practitioners. *J Pain Symptom Manage.* 1997;**14**:168–174.
4. Wilson JE, Pendleton JM. Oligoanalgesia in the emergency department. *Am J Emerg Med.* 1989;**7**:620–623.
5. Thomas S, Andruskiewicz L. Ongoing visual analog score display improves ED care. *J Emerg Med.* 2004;**26**:389–394.
6. Makower RM, Pennycook AG, Moulton C. Intravenous drug abusers attending an inner city accident and emergency department. *Arch Emerg Med.* 1992;**9**:32–39.
7. Thomas SH, Silen W. Effect on diagnostic efficiency of analgesia for undifferentiated abdominal pain. *Br J Surg.* 2003;**90**:5–9.
8. Kelly A, Brumby C, Barnes C. Nurse-initiated, titrated intravenous opioid analgesia reduces time to analgesia for selected painful conditions. *Can J Emerg Med.* 2005;**7**:149–154.
9. Meunier-Sham J, Ryan K. Reducing pediatric pain during ED procedures with a nurse-driven protocol: an urban pediatric emergency department's experience. *J Emerg Nurs.* 2003;**29**:127–132.

10. Fry M, Holdgate A. Nurse-initiated intravenous morphine in the emergency department: efficacy, rate of adverse events and impact on time to analgesia. *Emerg Med (Freemantle)*. 2002;**14**:249–254.
11. Fry M, Ryan J, Alexander N. A prospective study of nurse initiated panadeine forte: expanding pain management in the ED. *Accid Emerg Nurs*. 2004;**12**:136–140.
12. Singer AJ, Konia N. Comparison of topical anesthetics and vasoconstrictors vs lubricants prior to nasogastric intubation: a randomized, controlled trial. *Acad Emerg Med*. 1999;**6**:184–190.
13. Kleiber C, Sorenson M, Whiteside K, *et al*. Topical anesthetics for intravenous insertion in children: a randomized equivalency study. *Pediatrics*. 2002;**110**:758–761.
14. Gallagher RM. Physician variability in pain management: are the JCAHO standards enough? *Pain Med*. 2003;**4**:1–3.
15. Choiniere M, Melzack R, Girard N, *et al*. Comparisons between patients' and nurses' assessment of pain and medication efficacy in severe burn injuries. *Pain*. 1990;**40**:143–152.
16. Marquie L, Raufaste E, Lauque D, *et al*. Pain rating by patients and physicians: evidence of systematic pain miscalibration. *Pain*. 2003;**102**:289–296.
17. Ducharme J, Beveridge RC, Lee JS, *et al*. Emergency management of migraine: is the headache really over? *Acad Emerg Med*. 1998;**5**:899–905.
18. Neighbor ML, Honner S, Kohn MA. Factors affecting emergency department opioid administration to severely injured patients. *Acad Emerg Med*. 2004;**11**:1290–1296.
19. Rupp T, Delaney KA. Inadequate analgesia in emergency medicine. *Ann Emerg Med*. 2004;**43**:494–503.
20. Wang H, Sun H, Della Penna K, *et al*. Chronic neuropathic pain is accompanied by global changes in gene expression and shares pathobiology with neurodegenerative diseases. *Neuroscience*. 2002;**114**:529–546.
21. Safdar B, Degutis L, Landry K, *et al*. Intravenous morphine plus ketorolac is superior to either drug alone for treatment of acute renal colic. *Ann Emerg Med*. 2006;**48**:173–181.

Assessment of pain

CATHERINE A. MARCO AND ALAN P. MARCO

Topics

- Necessity of pain quantification
- Principles of applying pain assessment mechanisms
- Specific pain assessment tools for various populations

Introduction

The Joint Commission on the Accreditation of Healthcare Organizations and various medical associations have endorsed the essential role of pain assessment in optimizing healthcare.[1,2] In fact, pain assessment plays an integral role in the ongoing efforts to improve overall pain management in the acute care setting; the use of pain scores in the ED setting increases rates of analgesia administration.[3–5] This chapter will overview the pain assessment process and outline some pain rating tools that have been useful in the acute care setting.

Is pain quantification necessary?

Because pain sensation is inherently subjective, it is typically assessed by patient self-report. Some form of explicit pain assessment is necessary, since studies in myriad patient populations have failed to identify consistently reliable surrogate markers for pain. Attempts to quantify pain using measurable behavioral and physiologic parameters (including vital signs) have been disappointing. Objective signs are neither consistent nor universal indicators of pain. Perhaps most importantly, the absence of such signs does not exclude the experience of pain.[6–10]

The very idea of quantifying pain is somewhat controversial. Germaine to the debate is a nineteenth century contention made by William Thomson (Lord Kelvin) that worthy knowledge should be quantifiable in the form of

numbers. More recently, the "Curse of Kelvin," described as "the unthinking and inappropriate worship of quantifiable information in medicine," has been invoked by those concerned about objectification of information – such as pain – that is not amenable to direct quantification.[11,12]

For the clinician attending to a suffering patient, the philosophical debate about quantifying subjective sensation will usually be rendered moot by an institutional requirement for objective documentation of pain levels. Furthermore, the above-noted evidence does indicate that analgesia is improved by pain scoring – if for no other reason than focusing caregivers on pain assessment. Therefore, some form of this assessment needs to occur in the ED. As outlined in the initial chapter of this book, interpretation and application of pain score results requires clinical judgment. That said, the weight of available evidence supports performance of at least one objective pain rating for patients in ED.

Applying pain quantification tools

Pain self-ratings have long been known to be influenced by a range of clinical, psychological, and social factors. Patient pain ratings, and the reliability of available objective pain scales, have long been known to be affected by variables such as pain level, psychosocial factors, age, gender, ethnicity, cultural background, anxiety, and level of functional impairment.[13–17] More recently, investigators have demonstrated the importance of patient education regarding the use of the pain scale.[18] There is interpatient variation in terms of pain experiences, understanding of pain rating systems, and pain reporting and communication. For instance, a recent study at our institution demonstrated a breadth of pain scores in patients with similar injuries: scores ranged from 3 to 10 (on a 10-point scale) on the verbal numeric rating scale in patients with acute fractures.[19]

Despite pitfalls in self-reported pain scores, it is important for the objective pain rating to come from the patient. The necessity of pain self-report is supported by studies that consistently find clinicians' perception of patients' pain correlates poorly with self-reported pain levels.[20–23]