Original Contributions

PALLIATIVE CARE SYMPTOM MANAGEMENT IN THE EMERGENCY DEPARTMENT: THE ABC’S OF SYMPTOM MANAGEMENT FOR THE EMERGENCY PHYSICIAN

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Abstract—Background: Palliative care is a rapidly evolving area of emergency medicine. With an estimated 5,000 to 10,000 baby boomers per day reaching retirement age, emergency departments (EDs) are treating more patients with chronic and serious disease. Palliative care offers comprehensive care for patients with advanced medical illness, aims to alleviate suffering and improve quality of life, and plays an important role in caring for these patients in the ED. Objectives: We sought to increase the emergency physician’s knowledge of and comfort with symptom control in palliative and hospice patients. Discussion: Having the skills to deliver efficient and appropriate palliative and hospice care is imperative for emergency physicians. Palliative care should be considered in any patient suffering from symptoms of a life-limiting illness, whereas hospice care should be considered in the patient with likely <6 months left to live. Palliative care is appropriate earlier in the course of disease, and is appropriate when the practitioner would not be surprised if the patient died in the next 2 years (“The Surprise Question”). This article discusses management in the ED of pain, nausea, dyspnea, agitation, and oral secretions in patients appropriate for hospice and palliative care. Conclusion: The need for palliative and hospice care in the ED is increasing, requiring that emergency physicians be familiar with palliative and hospice care and competent in the delivery of rapid symptom management in patients with severe and life-limiting disease. © 2017 Elsevier Inc. All rights reserved.

Keywords—emergency medicine; end of life; palliative care; symptom management

INTRODUCTION

Palliative care is a new frontier in emergency medicine (EM). Traditionally, EM focuses on acute disease-specific issues and life-sustaining treatments. However, with the aging of the American baby boomer population and increasing numbers of people seeking care for chronic conditions in the emergency department (ED), the need for palliative care in the ED is now. Medicare enrollment continues to climb; in 1966, enrollment was roughly 19.1 million, with numbers rising to 56.5 million for the fiscal year 2016 (1). These patients are more medically complex. For instance, the number of Medicare enrollees with end-stage renal disease has increased from 110,000 in 1985 to 496,900 through 2014—a 352% increase (2).

In addition to the noble goal of improving quality of life, palliative care saves money by decreasing medical costs and inpatient duration of stay while improving overall patient satisfaction. Many studies have shown that costs go down when palliative care is involved in end of life care in the ED (3,4). Given the need for emergency physicians to have basic palliative care skills, this article will review concepts in palliative care and management of pain and nonpain symptoms.
Case 1

An 89-year-old woman with advanced dementia presents to the ED with her daughter. Her daughter tells you she is having trouble caring for her mother at home. The daughter says, “Over the past several months, Mom has seemed agitated. She argues about having to eat, is often incontinent of urine, and she wanders and yells, especially at night. I’m not sure what to do now.” The patient appears agitated in the ED but has normal vital signs. After more discussion, the daughter tells you she does not have much help with her mother and has been trying to manage her mother’s decline with only the assistance of the primary care doctor.

What are your next steps?

1. Admit the patient for nursing home placement
2. Discuss the benefits of palliative care and arrange an outpatient appointment
3. Check her mother’s blood work and urine analysis to ensure there is no treatable underlying issue
4. Work with the daughter on a regimen of haloperidol and risperidone to alleviate her mother’s agitation, and arrange for outpatient palliative care follow-up for long-term management

Case 2

A 71-year-old man with a history of congestive heart failure presents to the ED with severe shortness of breath. He has a known ejection fraction of 15%, an automated implantable cardioverter defibrillator, and is unable to ambulate at home without becoming symptomatic. He has been admitted 3 times in the past year for heart failure exacerbations and was intubated once during these admissions. His oxygen saturation is 84% on a nonrebreather mask. He is agitated. His wife states that the patient requested orders to do not resuscitate/do not intubate.

What are your next steps?

1. Explore with the patient and his wife the patient’s understanding of his life expectancy and his goals of care
2. Start a morphine drip and admit the patient to an inpatient hospice unit
3. Start the patient on bilevel positive airway pressure, initiate a nitroglycerin drip, and give a low dose of morphine and lorazepam
4. Call a palliative care consult from the ED to assist with management of the patient’s agitation and dyspnea

Case 3

A patient with advanced dementia presents to the ED with an exacerbation of her chronic arthritis knee pain. She is on a home regimen of sustained release oral morphine 30 mg 2 times daily, prescribed by her geriatrician. She tolerates the morphine but her son thinks it makes her sleepy. The patient does not seem distressed in the ED.

What are your next steps?

1. Increase her dose of morphine and discharge home
2. Transition her to a different opiate that she has not developed a tolerance to and discharge home
3. Continue her dose of morphine and add oxycodone for breakthrough pain and discharge home
4. Admit the patient to the hospital for pain management

BACKGROUND

Palliative care is comprehensive care for people with advanced medical illness, especially chronic and progressive, life-limiting conditions. The goal of palliative care is to prevent and relieve suffering while supporting the best possible quality of life for patients and their families, regardless of the stage of the disease or the need for other therapies. This means that patients can benefit from palliative care services even if they are actively receiving potentially curative therapies, such as chemotherapy or radiation in the case of malignancy, or are suffering an advanced chronic illness, such as heart failure or chronic obstructive pulmonary disease.

Hospice care is a subset of palliative care. Whereas both focus on symptom management, hospice care is the most appropriate service for a patient who has ≤6 months to live or who no longer desires curative treatment. In contrast, palliative care is appropriate earlier in the course of a life-limiting illness. If you as the practitioner answer affirmatively to the “surprise question”—“You would not be surprised if s/he died within the next 2 years”—then you should consider a palliative care referral. There is no limiting time frame for palliative care.

In general, patients with early hospice enrollment live longer than those without hospice (5). Although the use of hospice and other palliative care services at the end of life has increased in recent years, many patients are enrolled in hospice ≤3 weeks before their death, which limits the benefit they may gain from these services.

Fiscal Imperatives

Palliative care as a specialty in the ideal outpatient setting attends to the physical, spiritual, and psychosocial needs of patients at or near the end of life. Palliative care in the ED must happen in a much shorter timeframe, with the more limited goals of alleviating physical and psychological suffering to the best of our abilities, within the often chaotic, cacophony that is the ED. While doing so, we can
increase quality of life, contain costs, and decrease duration of stay for our patients.

Attempts at cost containment and the focus on patient satisfaction have helped drive the exponential growth in palliative care services in the United States. Multiple studies show overall reduced duration of stay for patients enrolled in palliative or hospice programs. Two retrospective studies of patients receiving a palliative care consult in the ED rather than as an inpatient have shown a statistically significant reduced hospital duration of stay of 3.6 and 5 days, respectively (6,7). In addition, palliative care has been shown to improve patient satisfaction and quality of life when palliative care services are initiated in the ED (8–10).

**Professional Imperatives**

Hospice and Palliative Medicine was recognized by the American Board of Emergency Medicine as a subspecialty of emergency medicine in 2006. The American Board of Emergency Medicine expects all emergency physicians to be proficient as generalists in palliative medicine (as opposed to specialists who have been Fellowship or otherwise trained). Quest et al. identified 12 generalist palliative care skills that are expected of all emergency physicians (11).

- Assessment of illness severity/death trajectories
- Formulation of prognosis
- Difficult communications—breaking bad news, death disclosures
- Advance directives and planning
- Family presence during resuscitation
- Management of pain/nonpain symptoms
- Withdrawing/withholding of nonbeneficial care
- Management of the imminently dying
- Management of hospice patients/palliative care systems referrals
- Ethical/legal issues
- Spiritual/cultural competency
- Management of the dying child

In addition, palliative care principles were added to the Model of Clinical Practice for Emergency Physicians in 2012. As of yet, there is no unified set of guidelines for teaching these principles to emergency medicine residents, leaving a gap in education on this topic. This article contributes to the knowledge base available to emergency physicians desiring to learn the skills necessary to treat chronically or terminally ill patients in the ED.

**DISCUSSION**

**Symptom Management**

This article focuses on basic symptom management of chronic and terminally ill patients in the ED, including management of pain, nausea and vomiting, dyspnea, agitation, and terminal secretions.

**Management of Pain**

Management of pain is one of the most crucial aspects of caring for patients with terminal illness. Nearly 50% of patients experience pain at the end of life (11). One explanation for this is that physicians undertreat pain at the end of life out of fear of inadvertently hastening death (12). However, respiratory depression is rare when pain medications are dosed appropriately (13). In addition, the Law of Double Effect offers legal protection when medication is given to a patient to alleviate symptoms, even if the provision of medication inadvertently hastens the onset of death.

There are 3 types of pain that need treatment at the end of life: nociceptive, neuropathic, and bone pain. Nociceptive pain occurs when organs are stretched or compressed, such as skin and visceral organs, typically presenting as a sharp hot or cold sensation. Neuropathic pain is pain from nerve injury and is described as lancinating pain, burning, electric, or tingling (radicular) pain in a stocking/glove distribution. Bone pain, such as from metastasis or pathologic fractures, is described as deep, boring, or gnawing.

Nociceptive pain is treated in a scale-up manner, beginning with nonopioids and increasing in strength as needed (refer to the World Health Organization’s analgesic ladder in Figure 1. The appropriate first choice is a nonopioid analgesic, such as acetaminophen. If pain is not adequately controlled, the prescriber will move up to a weak opioid, such as codeine, before moving on to a stronger opiate, such as morphine or hydromorphone. When opiates are used in opioid-naïve patients, low doses are appropriate initially, such as intravenous (IV) morphine 2 mg or IV hydromorphone 0.5 mg. Opioids should be ordered as standing orders every hour, not as needed, to stay ahead of the patient’s discomfort. Higher doses are appropriate in opiate-tolerant patients. The risk of overdose increases as doses of narcotics are >90 morphine equivalents per day. Table 1 shows appropriate opioid doses.

A strategy for initial dosing in opiate-tolerant patients experiencing a pain crisis is to increase their home doses by 50%. Another strategy is to change the patient to a different opioid, because cross-tolerance is not complete and may provide adequate pain control with a different narcotic choice. When changing to a different narcotic, start at 50% to 75% of the equivalent dose to avoid overdose. Opioid equivalency charts are readily available on the Internet and as apps for smart phones (i.e., “Opioids” by Norris Vivatrat and Chris Marcellino or http://www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf). Refer to Table 1 for an example of a narcotic equivalency table. Convert the total daily home dose of narcotic to an equivalent dose of oral morphine and

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**Note:** The table and references are not provided in the text and would be essential for a full understanding of the content. The text focuses on the principles and approaches to symptom management in the ED, emphasizing the importance of palliative care and the need for providers to be proficient in generalist palliative care skills. It also highlights the differences between nociceptive, neuropathic, and bone pain, and the strategies for managing each type. The focus is on evidence-based practices and the importance of patient-centered care in the ED setting. The text is structured to provide a comprehensive overview of symptom management, with a detailed discussion on pain management, including the use of opioids and other analgesic agents, and the importance of continuous and comprehensive care for patients with terminal illness.
make the conversion to a different narcotic. It is important to remember to prescribe stool softeners and laxatives when prescribing narcotics. Suggested softener/laxative choices include ducosate sodium plus senna or bisacodyl.

For example, our patient with dementia comes into the ED with an exacerbation of her chronic arthritic knee pain, despite her home regimen of oral morphine 30 mg twice daily:

- Oral morphine 30 mg = 10 mg of IV morphine
- IV morphine 10 mg = 1.5 mg of IV hydromorphone and oral hydromorphone 7.5 mg
- Half of the equivalent dose of IV hydromorphone is 0.75 mg and oral (PO) hydromorphone is 3.75 mg

You can give her 1 mg of IV hydromorphone in the ED which controls her pain well. She is discharged with 4 mg of PO hydromorphone every 4 to 6 hours.

A third option is to provide a one-time dose of steroids, such as dexamethasone 6 to 10 mg IV, for the synergistic effect of steroids with narcotics.

<table>
<thead>
<tr>
<th>Oral Narcotic Medication</th>
<th>Morphine Equivalent PO (mg)</th>
<th>Morphine Equivalent IV (mg)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>1</td>
<td>0.33</td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td>0.15</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>1</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>4</td>
<td>0.15</td>
<td>Hydromorphone conversion IV to PO ~1:5*</td>
</tr>
<tr>
<td>Methadone, mg/day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–20</td>
<td>4</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>21–40</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41–60</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥61–80</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1.5</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Fentanyl transdermal, mcg/hr</td>
<td>2.4</td>
<td>1.6</td>
<td>Fentanyl transdermal, mcg/hr: morphine, mg over 24 hr; PO ~ 1:2*</td>
</tr>
</tbody>
</table>

IV = intravenous; PO = per os.
* From “Opioid Equianalgesic Chart” available on the “Opioids” app by Norris Vivatrat and Chris Marcellino.

Table 1. Narcotic Equivalence Table

Treatment of neuropathic pain includes gamma-aminobutyric acid analogues (gabapentin and pregabalin), tricyclics (amitriptyline and imiprime), and traditional anticonvulsants (phenytoin, carbamazepine, and valproic acid) (14). Gabapentin is less expensive and as effective as the newer pregabalin. However, pregabalin has a much shorter up-titration period and a patient can reach effective doses in 1 to 2 days for pregabalin versus approximately 9 days for gabapentin (15).

The preferred first choice for bone pain is a nonsteroidal anti-inflammatory drug (NSAID). There is some evidence that osteolytic activity in bone metastases is mediated at least in part by prostaglandins. Anti-inflammatory drugs (prostaglandin inhibitors) can reduce pain from bone metastases. Clinical experience suggests that about 80% of patients show a response to NSAIDs (about 20% complete and 60% partial) (16). An appropriate choice is naproxen 500 mg twice a day. Bone pain that is not alleviated by NSAIDs should be treated with low-dose opiates.

Tramadol is also recommended for the treatment of pain. It is a step II agent on the World Health Organization’s analgesic ladder for nociceptive pain. It is also recommended for neuropathic pain, but is not considered a first-line treatment. Tramadol should be used with caution in patients concomitantly taking selective serotonin reuptake inhibitors/serotonin—norepinephrine reuptake inhibitors, monoamine oxidase inhibitors, triptans, and other drugs that reduce the seizure threshold. Tramadol can also induce serotonin syndrome with the concomitant use of other serotonergic agents. Table 2 is an overview of nonnarcotic options for the treatment of pain.

Management of Nausea and Vomiting

Nausea and vomiting are extremely common complaints of terminally ill patients. The pathophysiology of nausea...
and vomiting is complex, involving inputs from multiple sources to the vomiting center in the medulla. Input to the medulla comes from the cerebral cortex, the vestibular apparatus in the inner ear, the sensory organs, and the visceral organs. The vomiting center is also activated by the chemoreceptor trigger zone (CTZ), located in the fourth ventricle, in response to medications, gastrointestinal tract signals, and metabolic abnormalities. The CTZ sends the neurotransmitters serotonin, dopamine, histamine, and acetylcholine to the vomiting center, which leads to activation of the vomiting reflex. Knowing which antiemetic to use can be challenging given the complexity of the interaction between the CTZ, the vomiting center, and the multiple neurotransmitters and pathways involved. Table 3 is a summary of treatment options for nausea and vomiting.

The most common causes of nausea are mediated by the CTZ, which senses changes in blood levels of medications and electrolytes. Dopamine antagonists are useful in treating this source of nausea. Low-dose haloperidol, 2 to 5 mg IV every 8 hours, or chlorpromazine 1 mg/kg PO or IV every 8 hours or prochlorperazine 5 to 10 mg PO or IV every 4 hours are recommended. The prokinetic agent metoclopramide, at 5 to 15 mg PO or IV every 8 hours, is another option. In addition, the physician should treat the metabolic derangement or remove the offending drug if possible.

Nausea triggered by gastrointestinal distention can be treated with the prokinetic agent metoclopramide or with antihistamines, such as diphenhydramine. The physician should look for other causative factors, such as obstruction, gastrointestinal bleeding, side effects of medications, or thick secretions. Vestibular causes of nausea and vomiting are managed with the antihistamine agents diphenhydramine and meclizine or with the anticholinergic agent scopolamine. Benzodiazepines are also a good option for motion-induced nausea and vomiting. Vomiting precipitated by increased intracranial pressure is managed with dexamethasone. Ondansetron is first-line therapy for chemotherapy-induced nausea and vomiting (17).

Management of Dyspnea

Dyspnea is prevalent in the terminally ill population, frequently worsening as death approaches (18). Increased work of breathing from obstructive or restrictive causes, chemical causes, such as hypercapnia and hypoxia, and neuromuscular dissociation caused by anxiety or anatomic problems can all manifest as dyspnea.

The first-line agent in the treatment of dyspnea is an opioid. Opioids decrease the chemoreceptor response to hypercapnia, increase peripheral vasodilation, and decrease anxiety. Opioids have been shown to have a statistically significant effect on lowering the sensation of breathlessness and inhibiting the respiratory center’s sensitivity to hypercapnia (19,20). A low dose of morphine (2 mg IV) or other opioid equivalent is a good starting dose to alleviate dyspnea.

Benzodiazepines are useful if opioids fail to alleviate the patient’s breathlessness. A low dose of lorazepam (0.5 mg IV) can be offered. Opioids and benzodiazepines are synergistic in regards to respiratory depression, so we recommend small doses initially that can be titrated upward if needed.

Management of Agitation

Agitation or delirium in the ED is best managed acutely with low doses of the psychotropic drug haloperidol. Start with 1 to 2 mg IV hourly and titrate to effect.

| Table 2. Other Nonnarcotic Medications for Pain |
|----------------|-----------------|----------------|
| Medication     | Indication      | Comment        |
| Steroids       | Nociceptive pain| Synergistic with opiates |
| Tramadol       | Neuropathic pain| Can induce serotonin syndrome, second-line agent |
| NSAIDs         | Bone pain       | Consider naproxen |
| Gabapentin / Pregabalin | | |
| Traditional Antiepileptics | | |

NSAID = nonsteroidal anti-inflammatory drug.

| Table 3. Medications to Treat Nausea and Vomiting |
|----------------|-----------------|----------------|
| Cause of Nausea and Vomiting | Medication | Mode of Action | Comments |
| CTZ sensing medications/ electrolyte disturbance | Haloperidol, chlorpromazine, and prochlorperazine | Dopamine antagonist | Address cause for nausea |
| GI distention | Metoclopramide ÷ antihistamines Antihistamines, meclizine, promethazine, anticholinergics, and benzodiazepines | Promotility |
| Vestibular | | |
| Increased intracranial pressure | Dexamethasone | | |
| Chemotherapy-induced nausea and vomiting | Ondansetron | | Appropriate to try in nonchemotherapy patients as well |

CTZ = chemoreceptor trigger zone; GI = gastrointestinal.
Benzodiazepines can cause paradoxical agitation, particularly in the elderly, and are not first-line options. Benzodiazepines are best used in conjunction with haloperidol to manage refractory agitation. Low-dose lorazepam (0.5 mg IV) is an appropriate choice. The Cmax, time to peak serum concentration, of the newer antipsychotics are longer than haloperidol and are not appropriate to treat acute agitation in the ED.

Management of Terminal Secretions

Terminal secretions, or “The Death Rattle,” refers to the noisy, wet sounds made by a patient in the final stages of dying. The cause is air moving over the pooling secretions in the patient’s oropharynx and bronchi after the patient loses the ability to swallow and clear secretions. While not discomforting to the patient, terminal secretions can cause significant distress to the family or nearby patients.

Nonpharmacologic treatment of terminal secretions includes frequent suctioning, lying the patient on their side or in the semiprone position to facilitate postural drainage.

Pharmacologic treatment is with anticholinergic drugs that act on the muscarinic receptors, including glycopyrrolate, atropine, hyoscine, and hyoscyamine. The doses are glycopyrrolate 0.2 mg IV every 6 hours, atropine 1% sublingual drops (ophthalmic drops) or 0.1 mg IV. Hyoscine and hyoscyamine are usually only available in patch or oral formulations, respectively, with a long Cmax and therefore are not recommended in an acute situation.

Table 4 lists other useful medications in palliative care patients in the ED.

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Medication</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td>Opiates ± benzodiazepines&lt;br&gt;Morphine 2 mg IV&lt;br&gt;Lorazepam 0.5 mg IV</td>
<td>Synergistic if used together</td>
</tr>
<tr>
<td>Agitation</td>
<td>Haloperidol 1–2 mg IV&lt;br&gt;Low-dose benzodiazepines 0.5 mg IV</td>
<td>Add benzodiazepines if haloperidol alone is not enough</td>
</tr>
<tr>
<td>Secretions</td>
<td>Atropine 1% ophthalmic drops, 1–2 drops sublingually&lt;br&gt;Atropine sulfate 0.1 mg IV&lt;br&gt;Glycopyrrolate 0.2 mg IV</td>
<td>Do not use hyoscyamine or hyoscine for acute need</td>
</tr>
</tbody>
</table>

IV = intravenous.

The ED work-up of this 89-year-old woman with worsening dementia does not find any acute cause for her accelerated symptoms.

The approach to this patient may vary. If a medical work-up to exclude an infectious or organic cause of her mental status changes is unrevealing, you could discuss options with the patient and her daughter, including admission to the hospital to stabilize her on antipsychotics, or prescribing a low starting dose of haloperidol or risperidone to allow the patient to go home. You speak with the patient and her daughter and ask how they would feel about referral to a service that will

### CONCLUSION OF CASES

**Case 1**

The ED work-up of this 89-year-old woman with worsening dementia does not find any acute cause for her accelerated symptoms.

The approach to this patient may vary. If a medical work-up to exclude an infectious or organic cause of her mental status changes is unrevealing, you could discuss options with the patient and her daughter, including admission to the hospital to stabilize her on antipsychotics, or prescribing a low starting dose of haloperidol or risperidone to allow the patient to go home. You speak with the patient and her daughter and ask how they would feel about referral to a service that will

- Palliative care improves quality of life, decreases length of hospital stay, as well as increasing patient satisfaction
- Palliative Care is one of the core competencies of the board certified EP
- A referral to palliative care is appropriate when the practitioner would not be surprised if the patient where to die in the next two years (The “Surprise Question”)
- In an acute pain crisis, consider increasing current pain medication, or switching to a different opiate at a using morphine equivalent conversion method
- Dyspnea is best managed with low dose opiates
- Consider haloperidol for agitation before benzodiazepines
- Terminal secretions can be managed with antimuscarinic and anticholinergic agents

Figure 2. Summary points. EP = emergency physician.
help keep her out of the hospital and meet her goals for quality of life. They like the idea, and you place a call to the outpatient palliative specialist to get her set up with an appointment. When she has further decline, palliative care will be there to support her. Certainly with the progression of her dementia, if the patient is not admitted to the hospital, then referral to outpatient palliative care is an appropriate next step to help her maintain quality of life and to avoid further ED visits and hospitalizations.

Case 2

In this case of a 71-year-old man with end-stage congestive heart failure, it is appropriate to use his wife as a surrogate health care proxy if the patient is unable to make his own decisions. While he is do not resuscitate/do not intubate, bilevel positive airway pressure is a reasonable temporizing measure to provide comfort. In addition, a low dose of morphine will help him feel less dyspneic. A palliative care consult called from the ED will help expedite his care and assist his wife with any difficult decisions she may need to make. The palliative care team can see the patient in an inpatient room if admitted or in the ED if the plan is for discharge.

Case 3

This patient with advanced dementia and acute worsening of her chronic knee pain can be managed in several ways, none of which will likely require her to be admitted to the hospital. You could increase her dose of oral morphine, but because she is already suffering from excessive sleepiness at the morphine dose she is currently taking, this is not the best option. A better option is to add oxycodone every 6 hours for breakthrough pain or covert her to another opiate using the morphine equivalency method because she likely does not have complete cross-tolerance to other opiates, allowing her to get pain relief at a lower dose with fewer side effects.

As described in the body of this paper:

- Oral morphine 30 mg = 10 mg of IV morphine
- IV morphine 10 mg = 1.5 mg of IV hydromorphone and oral hydromorphone 7.5 mg
- Half of the equivalent dose of IV hydromorphone is 0.75 mg and oral (PO) hydromorphone is 3.75 mg

You can discharge the patient on 4 mg PO hydromorphone every 4 to 6 hours.

SUMMARY

Emergency physicians will continue to see increasing numbers of older and more medically complex patients. A basic set of palliative care tools will be needed to effectively treat these patients. Emergency physicians need to be facile with the use of morphine and morphine equivalents in managing pain both in the ED and when discharging patients home; with the use a broad range of therapies for managing nausea and vomiting, including haloperidol, metoclopramide, and ondansetron; with the use of opiates and benzodiazepines in the management of dyspnea; with the use of psychotropic medications to treat agitation; and with the management of terminal secretions. This paper addresses these issues and offers skills that can be readily put to use.

Palliative care benefits both the patient and the medical system at large: patients report a better quality of life and higher satisfaction when receiving palliative care services and medical costs are decreased. Figure 2 shows summary points. While a new subspecialty, palliative skills can be readily learned and applied on a daily basis, even in a busy ED.

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