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Postoperative pain management – beyond basics

To the Editor:

Butscher *et al.*[1] report a technique for intramuscular dosing with morphine based on observed patient requirements in the PACU. They state the technique provides "efficacious and relatively inexpensive postoperative analgesia." Those comments are echoed in an editorial by Moote.[2] The conclusions of the study relating to efficacy and expense of *im* injections, and the related editorial comments (which also include the issue of safety) should be viewed with caution.

In the Butscher study, it does not appear that patient reports of pain were obtained under standard conditions. An important distinction should be made between rest pain, which is generally easy to control, and incident pain such as that associated with deep breathing, ambulation, or maintenance of a normal range of motion after replacement of a major joint. Adequate control of incident pain is considerably more difficult to achieve than control of rest pain. What kind of pain was studied by Butscher *et al.*: rest pain, incident pain, or undifferentiated pain? Unless patients were specifically asked to rate their incident pain, the probability is that rest pain was usually reported. Intramuscular injections are not well suited to the control of incident pain. The best than can be done is to regularize the medicating schedule as suggested by Dr. Moote in her editorial. Such an approach may still produce inadequate analgesia for incident pain while imposing excessive doses of medication, and resultant side effects, during periods of rest. PCA offers the advantage of allowing patients to meet their individual and changing needs, including premedication for incident pain. Well-managed epidural analgesia produces more effective analgesia than *im* injections both at rest and with stimulation.

The authors provided no information to support their conclusion that *im* injections were "relatively inexpensive." To what are the authors comparing the cost of *im* injections, and what information do they offer to support the claim? The factors that contribute to the cost of providing pain relief are numerous and difficult to study. Some of them extend well beyond the period of time when a pain relief modality is used, and may be related to such issues as efficacy and safety of the therapy. Although a technique may be inexpensive to provide, if postoperative complications such as fevers, atelectasis, pneumonia, or thrombo-embolic complications are more frequent as a consequence of less effective pain relief, the perceived cost savings may be overshadowed by the costs associated with evaluating and treating those problems. Even a single adverse event involving mortality or serious morbidity associated with providing analgesia can cost millions of dollars.

Dr. Moote in her editorial states that Butscher's study describes an approach to pain management which is "simple, safe and effective." The safety of the approach was not established by this study. Only 53 patients received *im* morphine. A much larger study would be needed to determine safety when events such as respiratory depression ordinarily occur only rarely. Butscher *et al.* observed one case of respiratory depression and one case of sedation requiring the patients to be withdrawn from the study. Fourteen additional patients had a respiratory rate less than 12 breaths · min^{-1}. These observations followed *iv* morphine titration in the PACU.

There are liabilities to *im* injections that were not mentioned by the authors of this study or by Dr. Moote. First, intramuscular injections are painful, traumatic and aversive to many patients. It is not only children who may choose to suffer their incisional pain rather than experience another unpleasant procedure. Second, although it is true that in a perfect world, nurses might be able to check on the adequacy of pain relief on a regular basis (e.g., every hour), in reality, such regular evaluation is sometimes not possible. Even if nurses were not hesitant to call surgeons for help with problems of inadequate analgesia, the interest and expertise that could be expected in response to such calls is undetermined. One of the advantages of PCA is the independence it affords patients. Medication remains available during periods when the nurse and/or physician may not be.

There is no doubt that costs of medical care must be justified. I support the use of less expensive methods when they provide an acceptable alternative to more costly ones. The question is, who should be the judge of acceptability? We might do well to defer to the consumer, i.e., the patients (who also elect government representatives). If asked which elements of medical care they would be least willing to give up, it is my contention that adequate, safe, pain relief would be at or near the top of the list. I do not think that intramuscular injections, even when used optimally, would be considered an acceptable alternative to more modern methods by a well-informed general public.

Dr. Moote correctly states that "physician billing is an integral part of any pain service and may be the most expensive component." Although the old economic adage "you get what you pay for" is still valid, I wonder if it is time to give our patients "more than they pay for." Is it timely for us to consider offering our professional services to our patients in pain after surgery without additional charges? With that approach, modern techniques for postoperative pain management would be made immediately more affordable and our credibility as a specialty which is dedicated both to quality of care and fiscal responsibility would be enhanced. I recognize this would present a major redefinition of our specialty's "job description" but, as Dr. Moote points out, "in the race to reduce cost, we must strive to protect essential services for patients who need them most."

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REPLY

Going "beyond basics" in health care is an issue which is currently undergoing intense debate. It is time to define core and comprehensive services.[1] Which services are necessary and which are a luxury? Which services should the public be asked to fund and for which services should the patient be required to pay? The cornerstone for such technology assessment must be evidence-based medicine. New therapeutic procedures must be compared with standard treatments considering safety, efficacy and cost.

Safety – *Respiratory arrest[2] and severe respiratory depression[3] can and does occur with PCA. Problems have occurred when well-meaning nurses, family and visitors help the patient push the button. Equipment problems are an additional concern. An ampoule of naloxone is routinely at the bedside for patients using PCA. This has never been standard practice for im analgesia.*

Efficacy – *Changing the technique of administration does not dramatically alter the efficacy or safety of morphine Papers that compared im and PCA analgesia, have found both to be equally effective.[4] Inadequate analgesia has also been reported with PCA.[5]*

Cost – *The Committee on Pain Management under the Section on Clinical Care in the American Society of Anesthesiology has developed pain outcome measures for pain management. In the list of nine pain outcome measurement categories the first category listed is cost.[6] If conventional nurse administered opioid analgesia produces a similar outcome at lower cost, it should be adopted as the analgesic technique of first choice. In a health care system funded solely by tax dollars, PCA should be reserved for patients who cannot be managed by nurse administered analgesia.*

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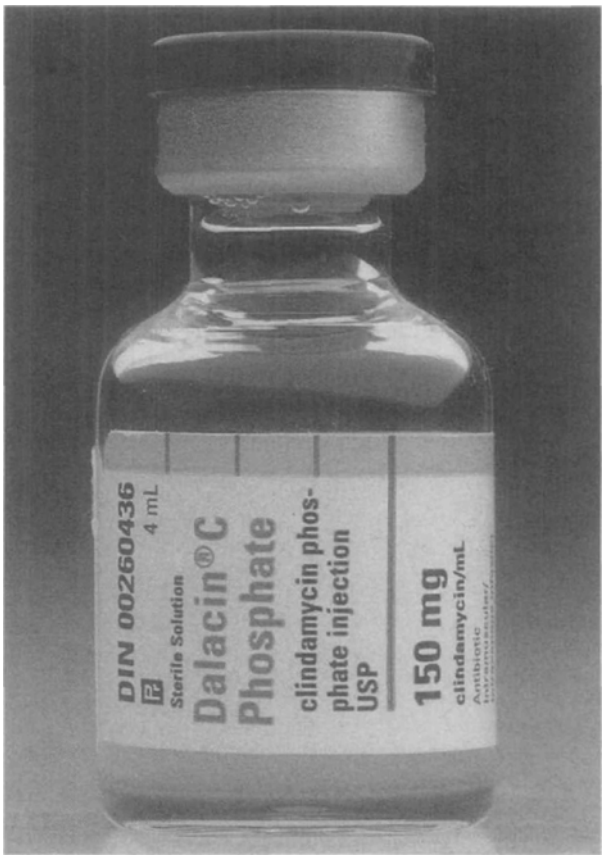
Medication labels: for whose benefit?

To the Editor:

We wish to report a "near-miss" drug error that was averted because of the report by Ahdal and Bevan.[1] These authors described a case of prolonged neuromuscular blockade following an overdose of clindamycin. Misinterpretation of the drug label caused the overdose and contributed to a similar incident described below.

Recently, one of the authors (R.C.) was asked to administer clindamycin (300 mg) to a patient undergoing general anaesthesia. The prominent text on the clindamycin vial, printed in large blue letters, was "Dalacin C Phosphate." The number "150" was the second most prominent feature. In smaller font, "clindamycin phosphate injection USP" was evident. The contents of the two vials (8 ml) were drawn into a syringe in order to prepare a dose of 300 mg. The need to open two vials seemed unusual and the report of Ahdal and Bevan came to mind. Upon closer inspection of the vials, "clindamycin/ml" was noted in small print. The syringe, therefore, contained 1200 mg, four times the required dose. The dose of clindamycin reported by Ahdal and Bevan was also increased by a factor of four, suggesting Dalacin C Phosphate was involved.

This label (Figure) meets the standards set by the Canadian Society of Hospital Pharmacists, yet it is difficult to read.



FIGURE