

Spinal narcotics for chronic noncancer pain warrants further investigation

We must all die. But that I can save him from days of torture, that is what I feel as my great and ever new privilege. Pain is a more terrible lord of mankind than even death itself.—Albert Schweitzer, MD¹

Pain is a ubiquitous condition—acute or chronic—that causes most patients to initially seek out a primary care physician.² Pain was defined in 1979 by the International Association for the Study of Pain as “an unpleasant and emotional experience associated with actual or potential tissue damage or described in terms of such damage. Pain is always subjective. Each individual learns that application of the word through experiences related to injury in early life. It is unquestionably a sensation in a part or parts of the body, but it is always unpleasant and therefore an emotional experience.”^{3(p402)}

The patient with chronic pain is suffering from a physically and debilitating condition that poses a special problem to the physician. In the United States, approximately 25% to 30% of the population suffers from chronic pain, and one half to two thirds of these patients are either partially or totally disabled for periods ranging from days to months, with some permanently disabled.⁴

For example, when considering the number of persons affected by back pain alone, the statistics are staggering: In 1986, 21 million persons in the United States had back pain that resulted in either partial or total disability. The total cost of this disability in 1986 dollars was \$20 billion. Of this amount, \$13 billion was in direct healthcare costs and \$7 billion in indirect costs to employers with 120 million work days lost.⁵

In the United States, more than 330 centers purported to specialize in pain control are available to better evaluate the problems of patients with pain. These centers range from single-specialty-expertise facilities to multidisciplinary interaction centers. Anesthesiologists direct 49% of these centers, with rehabilitation medicine specialists and neurosurgeons making up another 25%. Other practitioners involved in pain management include ortho-

pedic surgeons, psychiatrists, psychologists, and oral surgeons. Yet, only approximately 20 centers offer truly multidisciplinary evaluation and treatment. These services are usually affiliated with large teaching programs at tertiary care facilities.^{2,6}

Chronic pain associated with malignancy has received a great deal of attention in the medical literature, and an algorithm for its management has been proposed.⁷ Surgical procedures to include implantable stimulators and infusion catheters and pumps have been used in an attempt to control chronic, intractable pain associated with malignancy. Since the discovery of opioid receptors in 1973 and spinal cord dorsal horn opioid receptors in the substantia gelatinosa in 1977, tremendous interest has been generated in the use of intraspinal opioid administration in the treatment of chronic pain associated with malignancy. Unfortunately, although tolerance to long-term intrathecal narcotic administration in these patients does not appear to be a problem during the first few weeks or months of therapy, it does become progressively more likely the longer the therapy is continued.⁸ There is, however, a therapeutic endpoint in the treatment of malignancy-associated pain in that most patients die of the disease.

Such is not the case in pain that results from a nonmalignant origin. This scenario is precisely that which Richard B. Kanoff, DO, explores in an accompanying article in this issue of the JAOA, beginning on page 487. Dr Kanoff describes the placement of an implantable, programmable spinal narcotic infusion pump in 15 patients for the treatment of intractable, chronic pain of nonmalignant origin of various etiologies. He reports a generally favorable response to this therapy.

It is important to consider these results in light of the failure of these patients to respond to standard stepwise modes of therapy, rigorous patient screening and selection, and the availability of meticulous, long-term patient management. Of real concern is the issue of termination of spinal narcotic infusion therapy resulting from catheter-induced

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complications or the patient's development of tolerance to narcotics. In fact, most of the patients in Dr Kanoff's study did require higher dosages of narcotic therapy over time. These factors underscore the reluctance some authorities have with this form of therapy.

Nonetheless, this work by Dr Kanoff has significant implications. Historically, physicians have undermedicated patients with acute and chronic pain out of ignorance of pharmacokinetic principles, fear of patient addiction, and possibly as a means of distancing themselves from patients.⁹ In addition to the behavioral and psychosocial management of chronic pain, the rational approach to this problem is a three-step process encompassing:

- pharmacologic management to include intramuscular/intravenous narcotic/nonnarcotic and adjuvant medications and epidural or intrathecal routes of drug administration;
- modulation of pain pathways by direct central nervous system stimulation, dorsal column stimulation, or peripheral stimulation with transcutaneous electrical nerve stimulation (TENS), or acupuncture; and
- nerve blocks and neuroablation of pain pathways by either chemical or surgical means.

In contrast, some investigators believe that the treatment of chronic pain of nonmalignant origin is multimodal; therapy is mostly directed toward behavioral and psychosocial aspects and the role of drugs is minor.³ Pain modulation modalities such as nerve blocks, TENS, and dorsal column stimulators may help to diminish pain perception.² Studies that have investigated the use of intraspinal opioids in the set of patients with nonmalignant chronic pain have been equivocal, and outcome results may be comparable to those of other, more standard modes of therapy.¹⁰ It is thought that the regular use of these techniques leads to opioid tolerance, as is the case with cancer patients, although this remains controversial.⁸ Research and clinical studies continue in the use of spinal opioids for nonmalignant, chronic, intractable pain in carefully selected patients. The majority of pain authorities remain concerned with the open-ended aspect of this mode of therapy, particularly the potential problems of addiction and adverse opioid effects.^{10,11}

It will be interesting to evaluate the results of other investigators who may report on work similar to that which Dr Kanoff has done. This area of research requires more investigation on a larger scale with randomized trials among carefully selected patient populations. ♦

The opinions or assertions contained herein are the private views of the author and are not to be construed as reflecting the views of the Department of the Army or Defense

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