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Safe Treatment of Pain in the Patient With a Substance Use Disorder

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Addiction to alcohol and other drugs is a complex disorder that has been shown to cause modifications in the structure and function of the brain's reward system. These changes are apparent during active drug use, and they persist to some extent for long periods after a person stops using drugs. Because of these persistent changes, as well as established patterns of behavior, patients with substance use disorders—whether actively using or in recovery—are vulnerable to reactivating or complicating their addiction. They can relapse to using the original drug of choice, or an addiction can develop to other chemicals not used in the past. Persons addicted to opioids are at great risk for becoming re-addicted when similar drugs are introduced to their vulnerable brains.

Nevertheless, conditions associated with severe pain can and do develop in persons who have an active addiction or who are in remission from an addictive disease, and these patients may require treatment for pain relief. This presents a challenge to clinicians: how do we help patients manage pain without exacerbating or reactivating the addictive disorder? There is little research data on this topic, but experiential and anecdotal reports collected over the past 3 decades indicate that there are safe and effective approaches to pain management in these patients.[1-3]

Acute pain syndromes

For acute pain syndromes such as pain that occurs following an operation, trauma, or extensive dental work, the use of opioids may be indicated to control severe pain and to achieve optimal pain relief. Many but not all patients recovering from a substance use disorder have an increased tolerance to the effects of opioid drugs and may require higher than average doses for appropriate effect. Despite this, the treating physician or dentist, in a well-meaning but misguided attempt to prevent complications related to addiction, will often reduce the dosage of opioids administered. However, this is contrary to the effective approach, which is to give as large a dose as needed to achieve good pain control. Untreated pain is a trigger for relapse—a trigger that can be as powerful as exposure to an intoxicant.

Since patients with substance use disorders who are in pain often have difficulty discriminating between the need for pain relief and the craving for more drug, it is best to

administer the analgesics on a fixed schedule rather than on an as-needed basis. Personally controlled analgesia is not recommended for most persons with a history of substance use addiction.

An additional recommendation for preventing problems with craving is to designate a "medication administrator" who will hold the supply of pills and give them to the patient on schedule. If possible, this will be a person who cannot be manipulated easily by the patient. As soon as possible, the analgesic should be switched from an opioid to an NSAID and/or acetaminophen. In some cases, this may require gradual detoxification from the opioid.[4]

If the patient has an active addiction to alcohol, sedatives, or opioids at the time when the trauma or surgery necessitates pain control, postoperative care may be complicated by the need to manage a more complex detoxification. In addition, clinicians should initiate a discussion about plans for further addiction treatment following recovery. An addiction psychiatrist would be helpful in designing a pharmacologic plan to manage pain and withdrawal symptoms and for follow-up referrals.

If the patient is receiving agonist treatment for opioid dependence with either methadone or buprenorphine, the physician who is prescribing the agonist therapy should be contacted and involved in the pain-management plan.

Maintenance medication will not cover the patient's need for acute pain control.[5] Maintenance methadone should be continued as before, and short-acting opioid medication should be given in addition to the maintenance drug on a standing dosage schedule.[6] For example, immediately after surgery, a patient receives his or her usual dosage of methadone, 90 mg/d, and also receives meperidine, 100 mg q4h, intramuscularly for pain. Since buprenorphine is a partial agonist with a high affinity for the μ-receptor, it will need to be discontinued in order for the short-acting opioid pain medication to be effective. Once the patient no longer requires opioids for pain management, the patient can be re-induced on buprenorphine for continued opioid agonist treatment.[7,8]

During a bout with acute pain, a patient recovering from a substance use disorder will need increased support from his ongoing recovery program. Strengthening the support system may make all the difference in preventing a relapse. The abstinent patient without an ongoing program of recovery is at high risk for relapse when exposed to opioid pain medications or sedative muscle relaxants.

Case Vignette

BG is a 47-year-old married plumber with a long history of alcohol and cocaine dependence who has been abstinent and attending Alcoholics Anonymous (AA) for 3 years. While installing new bathroom fixtures, he fell from a ladder and fractured his right tibia and fibula, requiring open reduction. In the emergency department, he told the orthopedic surgeon about his addiction history and expressed a fear that the pain medication would cause him to relapse. Postoperatively, his surgeon decided to use lower

doses of meperidine than usual in order to avoid any possible complications with BG's addiction recovery. However, BG was in severe pain and unable to sleep for several days.

Within hours of being discharged from the hospital with no prescription pain medication, BG began drinking heavily. His wife called the surgeon, who decided to obtain an addiction medicine consultation. BG was admitted to the hospital detoxification unit under the care of Dr J, an addiction psychiatrist, and was started on an alcohol detoxification protocol and prescribed appropriate dosages of oxycodone with acetaminophen for pain control. Dr J, with BG's permission, also contacted his AA sponsor and arranged for him to visit the patient.

After 3 days, BG was discharged from the unit with a plan for the AA group to bring meetings to his home and for his wife to hold the pain medications and administer the prescribed dose every 6 hours. By week's end, BG's pain was being managed with ibuprofen, and he reported no craving for alcohol or other drugs.

Chronic pain syndromes

Chronic pain syndromes present very different management issues in the patient who has a substance use disorder. The first step in developing a plan for safe pain management is to conduct a thorough assessment of all aspects of the patient's physical and emotional health and his recovery. This includes a comprehensive physical and psychiatric history and examination; a review of the patient's records from previous and current care providers; collateral contacts with significant persons in the patient's life, such as a spouse or significant other, parents, children, involved relatives, friends, coworkers, and current health care providers. The evaluation should also include a urine toxicology screening that tests for a range of substances, including synthetic opioids; agonist/antagonist opioids; short-acting benzodiazepines and barbiturates; and over-the-counter substances, such as diphenhydramine, ephedrine, and phenylpropanolamine.

The drug history needs to explore alcohol use patterns; use of illicit, prescription, and over-the-counter drugs; and use of herbal preparations and food supplements, including energy drinks, natural sleep aids, and other tonics.

Three drugs that are frequently prescribed for patients with chronic pain deserve special mention because of the high risk of addiction. Carisoprodol is a muscle relaxant that is metabolized to meprobamate, a tranquilizer similar to diazepam. Butalbital is a short-acting barbiturate that is often combined with acetaminophen or a combination of acetaminophen and caffeine. Tramadol is a μ-receptor agonist that also appears to inhibit reuptake of serotonin and norepinephrine. Often viewed as "benign" by practitioners because they are not scheduled by the US Drug Enforcement Agency, these drugs' pharmacologic actions trigger the same receptors as other, more obvious offenders and should be avoided if possible.

For the person recovering from a substance use disorder who has a chronic or recurring pain syndrome and who is not currently taking opioids or sedatives, the safest treatment approach is for the clinician and patient to develop a pain management plan that

effectively controls pain without the use of these substances. Most persons with substance use disorders who are involved in a recovery program are motivated to work with a pain treatment physician to prevent re-addiction and will have at least a vague understanding that certain drugs can be risky for them. A written treatment protocol can provide a structure and framework that will decrease the patient's anxiety and give family members and other caregivers a guideline to follow in times of crisis (**Figure**).

Nonopioid pain treatments vary widely in their efficacy and appropriateness, depending on the type of pain the patient is experiencing, his overall state of health, and the availability of support systems and resources.

In addition to nonspecific pain relievers including anti-inflammatory drugs, syndrome-specific drugs are available for many types of chronic pain (**Table**). New (and often off-label) uses for older drugs are also available, including tricyclic antidepressants[9,10] and anticonvulsants.[11,12]

Nonpharmacologic approaches are also an important part of managing chronic pain. The following are some examples:

- Acupuncture
- Physical therapy
- Massage therapy and energy work
- Group therapy
- Individual therapy
- Relaxation, meditation, and imagery techniques
- Electrostimulation, including transcutaneous electrical nerve stimulation
- Biofeedback and neurofeedback
- Expressive therapies, such as art therapy, movement therapy, and music therapy[13,14]

Many patients with chronic pain who are recovering from an addiction have additional psychiatric disorders that require treatment in order for the pain management strategy to be successful. Some common comorbid illnesses include depression, anxiety disorders (including posttraumatic stress disorder); somatoform disorders; personality disorders; and adjustment disorders, which may or may not be directly related to the pain syndrome itself. Commonly, the pain is found to have both physical and psychological components, and aggressive treatment of comorbid psychiatric illness can decrease the severity of the pain; improve the patient's adherence to the pain management strategy; and improve the patient's participation in, and the benefit from, his addiction recovery program.[15-17]

When the pain is not responsive to such approaches and opioids are required to control the patient's pain, it is essential that a structured plan of treatment be in place. In such cases, a clear written agreement such as the one that is shown in the Figure can be very helpful.[18]

Case Vignette

CA is a 28-year-old single mother who is currently working as a receptionist in an attorney's office. She was actively addicted to heroin between ages 17 and 22 years, when she became pregnant. She entered a methadone treatment program for pregnant women and after giving birth to her daughter, spent 2 years in a drug-free therapeutic community for women with children. She has been abstinent from street drugs and alcohol since that time, and she has completed her degree at a local community college.

Since her pregnancy, CA has had migraine headaches 2 or 3 times per month. Initially, she managed the headaches with over-the-counter medication, but in the past year, the headaches have become more severe. CA discussed the headaches with her family doctor but did not reveal her addiction history. Her physician prescribed hydrocodone, which was ineffective, and then oxycodone and butalbital with codeine. CA began escalating the dosages, asking for early refills, and making frequent visits to the emergency department. She was having headaches almost daily, despite the increased dosages of medication. When a trial of fentanyl patches was not beneficial, CA admitted that she was addicted and told her physician about her addiction history.

She entered a buprenorphine treatment program under the care of an addiction psychiatrist and was given topiramate daily for migraine prophylaxis and sumatriptan therapy for breakthrough headaches. A structured treatment protocol, including a weekly pain management group, a weekly addiction group, and 3 weekly Narcotics Anonymous meetings, was essential in managing her occasional cravings to take heroin. Her medications were not covered by insurance but were obtained through a prescription assistance program.

Conclusion

In general, the pain treatment regimen for a person recovering from an addiction involves the use of long-acting opioids, such as sustained-release oxycodone, methadone, or buprenorphine, administered on a fixed dosage schedule, with another person holding the medication. Unlike addiction treatment protocols, which usually employ once-daily dosing schedules, methadone and buprenorphine are divided into 2 or 3 daily doses for better pain control. For methadone, dosages can range from 60 to 200 mg or more daily; with buprenorphine, dosages of 4 to 32 mg/d are common.[19] In addition, a "rescue" dose of a short-acting opioid such as oxycodone or hydromorphone may be available, again held by the participating family member or caregiver, with clear guidelines for when it is to be used.

Other aspects of the protocol include the involvement of a single physician who writes prescriptions weekly at first with no refills, until the patient demonstrates his ability to safely adhere to the protocol. As in the nonopioid protocol, all prescriptions are filled at the same pharmacy, and no prescriptions are called in by phone; lost, stolen, or damaged prescriptions or pills are not replaced. Although controlled research to demonstrate the effectiveness of this approach in preventing substance misuse is lacking, more than 75% of pain specialists currently use some form of agreement with their patients with chronic pain.[20]

Urine drug screening should be done randomly but regularly to determine whether other substances are being ingested and to ensure that prescribed medications are being taken. The current use of illicit substances indicates a need for additional substance abuse treatment for the patient and may predict misuse of opioid pain medications.

When approached as a joint effort between the physician and the patient, a structured treatment plan gives the patient a strong investment in determining his own pain management strategy. Throughout the development of the protocol, it should be emphasized that the purpose of the plan is to provide maximal pain relief while protecting the recovering patient's sobriety against the insidious reactivation of his disease.

In addition to the written agreement and consistent expectations and responses on the part of the treating psychiatrist, all clinical staff need to be trained in both addiction and pain, using experiential (eg, films, group discussions) as well as didactic methods. Staff should be aware that patient behaviors arise from symptoms of their disease; despite their behavior they deserve to be treated with dignity and respect. Since clinicians ask patients to adhere to their treatment agreements, we need to keep our end of the bargain by being kind, patient, forthright, and on time.

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