The Methadone Maintained Patient and the Treatment of Pain
by
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Introduction

Opiate addiction and the most effective treatment for it, methadone maintenance, are not well understood within the medical profession. The reasons for this are complex and can be traced back to the Harrison Narcotic Act of 1914.

Physicians were the first group to be persecuted by this legislation which did not consider opiate dependence a legitimate medical condition and forbade the prescribing of opiates solely for the purpose of maintaining dependence. At the time the majority of opiate-dependent persons were middle class women (housewives) and physicians or other medical professionals who had access to drugs. Nevertheless, many physicians attempted to pursue a humane course of medical treatment by continuing to prescribe their "necessary" narcotics. Authorities were determined to make an example of these mostly family doctors, so many physicians were arrested, imprisoned and lost their medical licenses and practices. It must be emphasized that these were not unscrupulous physicians, rather many were concerned about the patients they had treated for years.

Over the years, the medical profession's early experience with the Harrison Narcotic Act has evolved into the dictum "stay away from addicts" they are nothing but trouble and addiction is not a doctor's domain. By the 1930s, this attitude became prevalent in medical schools with physicians receiving little or no training in addiction, which remains to this day. The lack of training on addiction, drug dependence and prescribing medication for pain has resulted in much confusion among clinicians (Portenoy & Payne, 1992). Added to this confusion is the strict regulating of narcotic drugs whose main impact has been to cause the under prescribing of narcotic drugs for the relief of pain. Physicians have become concerned about addiction when prescribing for pain relief. Yet the fact is that when morphine is taken to relieve pain it rarely causes addiction. However, there is evidence that the medical profession is changing. Addiction treatment has recently become a subspecialty within the American Medical Association.
The unwarranted fear of addicts and the fear of prescribing opioid analgesics has been given a name, addictophobia. The education of physicians in the pharmacology of opioids and their ability to relieve pain, along with training in the basics of addiction, will help eliminate these attitudes. However, belief that addiction is a behavioral problem will no doubt persist until the biological causes are discovered and understood.

Clarifying Terminology

Tolerance is a pharmacologic property of all opioid drugs and is characterized by the need for increasing doses in order to maintain the original effects (Jaffe, 1985). Tolerance to the reinforcing effects of opioids, and the need to increase the dose in order to maintain the initial effects, is considered an important aspect of addiction. The belief that tolerance will develop to the analgesic effects of opiates in the opiate-naive patient and thus interfere with analgesic efficacy continues despite evidence to the contrary (World Health Organization, 1969). Studies have demonstrated that tolerance to the analgesic effects of opiates occurs only in patients with chronic and worsening pain (Foley, 1985; Twycross, 1983). Patients treated for prolonged periods with opiate drugs for nonmalignant pain fail to demonstrate the need for escalating doses in order to achieve pain relief (Portenoy & Foley, 1986; Portenoy, 1989).

Physical dependence is also a pharmacologic property and is defined solely by the abstinence syndrome or what is more commonly known as withdrawal (Jaffe, 1985). Much of the misunderstanding about physical dependence and addiction occurs because these terms are often erroneously used for one another. Physical dependence is a pharmacological property of all opioid drugs, as is tolerance while addiction is identified based on psychological or behavioral manifestations of the underlying disease.

Narcotic addiction as we know it, is characterized by drug craving, compulsive use, deviant behaviors and most commonly relapse after withdrawal from the drug. It is interesting to note that methadone has a significantly lower potential for abuse than heroin, morphine, etc., based on its slow onset of action with a relative lack of reinforcing effects. The term drug abuse is used to define any compulsive drug-taking behavior that is not within accepted societal or cultural mores. However, experts in the field are beginning to use this term less because of the moral implications, and prefer to use the term "drug use" in its place. It must be stressed that the behavior associated with compulsive drug taking is quite different from the behavior of a patient with a history of illicit drug use who requests medication to relieve pain.

It must be emphasized that it is unjustified for physicians to be reluctant to prescribe a sufficient dose of medication in order to relieve pain. Since medically caused addiction to opiates rarely occurs, their application to relieve pain should be pursued aggressively and early in order to promote health and healing. Furthermore, it is illogical for physicians to under prescribe opiate analgesics for patients suffering with the pain of terminal cancer or any other fatal condition for fear of addicting them. For these patients the focus should be on relieving the pain of the disease and dying and thus allowing them to live out their final days with their family and in comfort.

The Opiate-Dependent Person and Pain

Methadone patients who are hospitalized with acute or chronic pain conditions are at high risk for receiving inadequate medication for relief of pain. There are several major reasons for this. First, many health professionals incorrectly believe that methadone patients will obtain pain relief from the methadone. Secondly, attitudes of the medical staff about illicit drug use may overwhelm the need to provide adequate pain relief and complaints from the patient are perceived as manipulations to receive opioids for other than pain relief. Another potential factor for under treatment is the failure of the medical staff to recognize the potential for tolerance in methadone-maintained patients. The result is that a large majority of methadone patients who have needed medication for pain relief did not receive an adequate dosage, or even any at all. As former drug users methadone patients often perceive the medical profession as unsympathetic and prejudiced based on earlier experiences. The rehabilitated methadone patient very often continues to be excluded by those responsible to provide comfort and relief. Whatever factors may contribute to the under treatment of methadone patients the end result is the undermining of the therapeutic alliance.

Some clinicians incorrectly assume that the methadone-maintained patient has no need for pain relief. Patients maintained on methadone have developed a tolerance or resistance to the narcotic, analgesic (pain killing) and tranquilizing properties of methadone. Consequently, they feel pain to the same degree as persons who are not maintained on methadone and need adequate doses of morphine or other narcotics to relieve acute and chronic episodes of pain.

These authors know of no studies that have evaluated the effects of tolerance and its potential in reducing the efficacy of analgesics (Portenoy & Payne, 1992). Several studies have found that the usual regimen used to provide pain relief for the non opiate tolerant patient can also be used to treat those maintained on methadone (Kantor, Cantor & Tom, 1980; Rubenstein, Spior, & Wolff, 1976). However, these studies did not assess directly the relief of pain, or evaluate the role of tolerance in achieving analgesia (Sawe, Hansen, Ginman et al, 1980). Since these factors were not considered these authors encourage clinicians to evaluate dosage in consultation with the patient in order to ascertain that adequate analgesia has been achieved for proper healing and health of the patient.

Some methadone patients who have been hospitalized for surgery have reported that their methadone doses were lowered in the hospital and as a result they experienced withdrawal symptoms while hospitalized (National Alliance of Methadone Advocates, Inc., 1994). Other reports have been received that some patients were even told to detoxify from methadone prior to surgery since it is incorrectly believed that methadone may interfere with analgesia or their health condition (Payte, 1994). In summary it must be emphasized that the opiate-dependent patient must be treated with the same dignity and respect as any other patient. When treated humanely and with compassion the opiate-dependent patient is no more difficult to treat than non dependent patients,
although they may be a little more distinctive than the ordinary patient.

Methadone patients or opiate dependent individuals should never be given mixed opiate agonist/antagonist drugs as this will precipitate the abstinence syndrome and can cause serious problems. Commonly used drugs in this class include Talwin, Nubain and Stadol.

The methadone-maintained patient is easily treated for chronic pain. Physicians need not be concerned with those methadone patients maintained on a blockade dose of 80 mg/day or greater to feel any euphoric effects from short-acting narcotics (Dole, Nyswander & Kreek, 1966). The methadone will block it. Even lower doses of methadone will produce a partial blockade effect. It must be emphasized that in order to produce adequate analgesia in methadone patients short acting narcotics may have to be prescribed in higher doses and greater frequency than that needed for the opiate naïve patient. Since, methadone patients at a blockade dose are protected from respiratory depression so the concern of the physician should be to achieve satisfactory analgesia.

Usually a sensitivity to narcotics can be determined through an interview with the patient and in these cases the initial dose of pain medication can be given in small increments while observing the patient until analgesia is achieved. Treating the methadone patient for pain on a blockade dose is easier than the patient whose dose only provides a partial blockade. Inadequate pain relief may result in the former illicit drug user to seek additional drugs for the relief of pain, thus placing them at a great risk of relapse. Illicit heroin and cocaine are readily available in urban and rural locales and therefore easy to obtain for hospitalized patients in pain.

Fears of Patients with a History of Illicit Drug Use

Many former illicit drug users may be fearful of losing control and thus refuse any analgesia. First and foremost their request for no pain medication should be respected. However, in some patients eventually pain may overcome this fear and a request for pain medication may be made. Before this point is reached the clinician should discuss and make clear all the issues with the patient. Methadone patients receiving a blockade dose should be assured that their daily dose of methadone will block any euphoric effects of the drug and that analgesics will only produce relief of pain. Methadone patients on lower doses can similarly be advised of a partial blockade and that in all probability they will feel very little euphoria, if any at all from pain medication. Furthermore it should always be emphasized that analgesia for acute pain will probably only be necessary for a short time and that relief of pain is essential for a quick and healthy recovery. Some methadone patients may fear that their maintenance dose will have to be increased. Again these patients should be reassured that this problem has been studied and that an increase in their maintenance dose will not be necessary (Kantor, Cantor & Tom, 1980).

Ultimately, the final decision should always rest with the patient, and the attending physician should make sure that these requests are respected.

Protocols for Pain Relief

There are several regimens that can be used with the methadone-maintained patient. None of these protocols have been demonstrated to be superior to the others, and physicians should rely on their own experience and observation, as well as listening to the patient. A common protocol and probably the easiest, is to continue the base line maintenance dose of methadone and supplement it with intermittent increments of a shorter-acting narcotic. Opiate-dependent individuals will metabolize narcotic analgesics faster and can rapidly develop tolerance to the analgesic effects of a short-acting narcotic and will probably require an increased dose and a more frequent dosing schedule (Kreek, 1983). The best advise to follow is that of the late Dr. Marie Nyswander who taught physicians to "listen to the patient."

Other regimens are somewhat problematic, but may be useful for some instances. One strategy is to increase dose of the long-acting narcotic, namely methadone, until the desired pain relief is achieved. In order to produce a sustained analgesia with methadone for a non opioid dependent patient, at least three doses per day are required. There is no advantage in using methadone for analgesia since the analgesic duration only lasts about four to six hours (Sawe, Hansen, Ginman et al, 1981). Methadone-maintained patients will quickly develop tolerance to the analgesic effects of methadone making this method only useful for short periods, if at all (Selwyn, 1992).

A final method is to completely abandon the long-acting narcotic methadone and institute a regimen to completely meet the needs of the patient's pain relief. Again another problem arises since short-acting opioids will probably be metabolized quicker in patients with a history of opioid drug use. They will rapidly metabolize short-acting opioids and develop tolerance to the analgesic properties faster thus making it difficult to achieve a maintenance dosage without development of some symptoms of the abstinence syndrome (Kreek, 1983).

Should these later two protocols be utilized and a problem occurs, such as the patient experiencing the beginning symptoms of the abstinence syndrome or analgesia is not achieved, the patient may perceive that they are being used to experiment on. No matter how erroneous this belief may be this attitude will undermine the ability to have a good therapeutic relationship with the patient. Persons with a history of drug use, as mentioned previously, have often had very bad experiences with the medical profession making them suspicious towards any clinician. Overcoming these attitudes is the art of medicine and they can be if the patient is treated with honesty, sincerity and dignity. Should it be necessary to choose any regimen that will either increase or decrease the maintenance dose of methadone it should be done in consultation with the physician treating the patient for their drug dependence.

Intramuscular Administration of Methadone

For some conditions, especially abdominal surgery the methadone-maintained patient may need their medication administered via intra muscular (IM) injection. There is the illogical belief by physicians that methadone administered this way is stronger while in fact, "30 mg is 30 mg." Many
hospitalized methadone patients requiring IM administration have reported that their daily dose was cut in half. This places these methadone patients at a distinct disadvantage. Methadone-maintained patients not receiving a blockade dose and especially those receiving 40 mg/day or less will begin to experience symptoms of the abstinence syndrome and will probably experience immediate discomfort within the 24-hour period. If these patients also require pain medication they will be experiencing pain and withdrawal symptoms simultaneously. Methadone patients on a blockade dose of 80 mg/day or greater will probably not experience any initial discomfort when their usual methadone dose is cut in half because it is administered IM, at least for awhile. As their methadone blood levels slowly drop these patients, formerly receiving a blockade dose of methadone (80 mg/day or more), are no longer protected against respiratory depression and, more importantly, the lower methadone dose of 40 mg/day may only partially block any euphoric effects of an opioid administered for relief of pain.

Perhaps the most cautious strategy when administering methadone IM is to administer half in the morning and half in the evening. Perhaps this is where the confusion began regarding the halving of the dose. A few methadone patients who are not taking a blockade dose above 80 mg/day and who are sensitive to methadone may experience an initial sedation when their medication is administered IM. It must be emphasized that every effort should be made to maintain a methadone patient on their usual maintenance dose which was prescribed by a physician experienced in addiction treatment. The methadone patient will be reassured if his maintenance dose is maintained promoting a therapeutic relationship and a healthy outcome. Many physicians are concerned about the unusually high doses required for methadone maintenance: doses that would normally cause respiratory depression and possibly even death in the non opiate tolerant patient. However, it cannot be over emphasized that doses over 80 mg/day are necessary for methadone to be effective and adequate in blocking drug craving and hunger. Once drug craving is controlled with an effective dose the methadone patient can live a relatively normal and stable life.

Included in the contract should be the responsibilities of the patient after they are discharged from the hospital. The contract should have the methods used to renew prescriptions and the response to lost or stolen medication. One way to handle the problem of lost or stolen medication is to advise the patient in the contract that should this occur it will have to be reported to the police. The police report will have to be presented and placed in the patient's record before any replacement medication can be prescribed. Furthermore, it should be emphasized to the patient that medication will be replaced "only" once and therefore should only be used if the medication is truly lost or stolen. For patients who are not hospitalized or do not have a place to secure pain medication more creative protocols may have to be used. Certainly, one method is to only prescribe pain medication one day at a time. Such an arrangement could be made with a local pharmacy.

Summary

The methadone-maintained patient experiences normal pain and therefore needs adequate analgesic medication to relieve pain. At a blockade dose of 80 mg/day the methadone-maintained patient is protected from respiratory depression and will not experience drug craving or hunger or any euphoric effects of any short-acting opiates prescribed for relief of pain. Clinicians should not feel apprehensive about the large doses prescribed to methadone patients to treat drug dependence. Methadone will not interfere with the prescribing of opiates for analgesia. Detoxifying from methadone or any opiate is not recommended and can temporarily effect the health of the maintained individual. Perhaps the easiest protocol for pain management of the methadone patient is to prescribe adequate short-acting opiates while maintaining the maintenance dose of methadone. If it is necessary to change the maintenance dose of methadone it should be done in consultation with the patient and the clinician who is treating the patient for their drug dependence. If reasonable conditions of pain management are followed the methadone patient should be no different than any other patient treated for acute or chronic pain.

AIDS and Pain Management

The care of patients who have a history of illicit drug use and are infected with HIV are of critical relevance when considering pain management. The complexity of the issues in treating these patients requires that the first step in their management should be a comprehensive assessment. First and foremost, all attempts should be made to obtain proper treatment for the illicit drug use. Clinicians not knowledgeable in addiction treatment should seek professional expertise when treating patients who are drug users. This will avoid acting-out behavior. Every effort should be made to assure these patients that an adequate maintenance dose of methadone will be given to them while they are hospitalized. Pain management for these patients may be difficult and require a greater frequency of monitoring. The use of a written contract which is kept in the medical record and defines the regimen and explicitly states the responsibilities of both the patient and the physician may be helpful in treating these patients.
References


Payte, T. Personal communication, 1994.


Dear Doctor:

The bearer of this letter is a patient in a methadone maintenance treatment program. Methadone patients frequently need treatment for other medical, surgical, and dental conditions. At times the health professional is not familiar with addictive disease and the various forms of treatment, including maintenance pharmacotherapy using methadone or LAAM. The reaction to being informed about the addictive disease/methadone treatment often includes fear, anger, prejudice, disgust, and other negative subjective responses, none of which contribute to the objective delivery of quality health care. Many patients are very reluctant to provide information to the other health professional about their addiction and treatment with methadone or LAAM because of previous unpleasant experiences. The most common reaction is based on fear and disgust which is inversely proportional to the professional's level of familiarity with addiction medicine and patients with addictive diseases. The purpose of this brief letter is to touch on the most common problems encountered and to offer any assistance I might be able to provide.

It is widely accepted that addictions are diseases and that their treatment is a legitimate part of medical practice. Addictive disease can be characterized as a chronic, relapsing, progressive, probably incurable, and often fatal (if untreated) disorder. The principal diagnostic features are obsession, compulsion, and continued use despite adverse consequences (loss of control).

Methadone has been used in the treatment of opioid dependence for over 30 years. It has been found to be both effective and safe in long-term administration. An adequate individualized daily dose of methadone eliminates drug craving, prevents the onset of withdrawal, blocks (through opiate cross-tolerance) the effects typical of other opiates, such as heroin or morphine. Efficacy of treatment is based on elimination of or reductions in illicit/inappropriate drug use, elimination or marked reduction in illegal activities, improved employment, pro-social behavior and improved general health. Such treatment has been shown to be effective in reduction of the spread of HIV and other infections. Dramatic reductions in mortality rates are seen in methadone maintained patients in comparison to untreated addicted populations.

The methadone maintained patient develops complete tolerance to the analgesic, sedative, and euphoric effects of the maintenance dose of methadone. Tolerance does not develop to the effects of reducing drug hunger and preventing the onset of withdrawal syndrome. Methadone has a half-life in excess of 24 hours which makes single daily dosing possible. Methadone has a relatively flat blood plasma level curve that will prevent the onset of abstinence syndrome for over 24 hours without causing any sedation, euphoria or impairment of function.

Along with discrimination, and related to the same stigma, the failure to provide adequate treatment of pain methadone maintained patients is a common and very serious problem. Since the patient is fully tolerant to the maintenance dose of methadone No analgesia is realized from the regular daily dose of methadone. Relief of pain depends on maintaining the established tolerance level with methadone and then providing additional analgesia. Studies have shown that exposure to adequate doses of narcotics for the relief of acute severe pain does not compromise treatment of the addiction.
Non-narcotic analgesics should be used when pain is not severe. In the event of more severe pain the use of opioid agonist drugs is quite appropriate. The dose of opioid agonist drugs, such as morphine, is usually increased to compensate for the opioid cross tolerance established by the methadone. Also, the duration of analgesia may be less than usual. Doses must be individually titrated to ensure adequate analgesia. Best results are obtained with a scheduled dosing as opposed to PRN. Morphine may be required q 2-3 hours at whatever dose that provides relief.

There is no justification for subjecting a maintenance patient to unnecessary pain and suffering because of their disease or its treatment. Adequate treatment of pain will ensure a more pleasant hospital stay as well as enhance healing and recuperation.

**Opioid partial agonist and agonist/antagonist drugs such as Buprenex, Talwin, Stadol, and Nubaine should never be used in the methadone tolerant individual.** Severe opiate withdrawal syndrome can be precipitated by drugs of this type.

Both propoxyphene and meperidine are known to produce CNS excitatory metabolites. Due to the cross tolerance the higher doses required to achieve analgesia can increase the risk of seizures. For this reason propoxyphene and meperidine should be avoided in the maintenance patient.

The administration of opioid agonist drugs should be closely supervised in terms of quantities and duration. Prescribing for self-administration by the patient should be carefully monitored. If it is necessary to prescribe for self administration, caution should be exercised in the amounts prescribed and refills carefully supervised.

Similar precautions are indicated in the prescribing of sedative/hypnotic and CNS stimulant drugs. The abuse potential of ALL benzodiazepines is quite high.

At times the attending physician is tempted to treat the opioid dependence itself. This is usually attempted by tapering the methadone dose to zero. If successful, the graded reduction may result in a reduction or elimination of the physical dependence but has no effect on the disease itself. Even after the methadone is discontinued significant signs and symptoms of abstinence may persist for several weeks and even months. The relapse rate associated with detoxification alone approaches 100%. A relapse to street/illicit drugs increases risk of overdose, hepatitis, AIDS, and a host of other biomedical, psycho-social, legal, and other complications.

Under some circumstances some form of intervention can be accomplished during a hospital stay for other conditions when desired by the patient and in consultation with the methadone program physician. Such a process should involve experienced addiction professionals with a strong emphasis on continuity of care upon discharge.

If you have any questions or concerns about our mutual patient in relation to methadone or drug dependency please call me. I would be delighted to hear from you.

Sincerely,

Your name and special instructions

This letter was developed by Dr. J. T. Payte for physicians working in methadone treatment to provide to patients when they are treated outside of the clinic.
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