Key Points

1. Overall research results are mixed on the effectiveness of opioids in treating chronic, neuropathic pain
2. Double-blind, randomized, prospective study assigned 81 adults with neuropathic pain to receive either a low-dose or a high-dose of the drug levorphanol
3. Patients controlled their own dosing - up to a limit - over a several week period
4. Pain intensity, pain relief, and several psychological and quality of life metrics were evaluated over the course of the study
5. While both groups reported lower pain intensity, the high-dose group reported significantly more pain reduction
6. While both groups reported improved sleep and less interference with functioning, there was no difference between the groups
7. The high-dose group reported more severe side-effects than the low-dose group

Definitions

central nervous system - the brain and spinal cord

central pain - abnormal pain arising from damage to the central nervous system

double blind - scientific technique used to eliminate bias in a study, where neither the study participant nor the experimenter (doctor) knows which of two treatments the participant is receiving

narcotic - class of drugs derived from the opium plant - or created synthetically for the same effect; used as pain-killers

neuropathic - abnormal pain caused by damage to the nervous system

opioid - narcotic

How Much Do Opioids Help With Chronic Pain?

There is a tremendous amount of controversy surrounding the use of opioids - or narcotics - to treat chronic pain. On the one hand, some pain experts say that doctors are too stingy in handing out pain medicine and shouldn't worry so much about people becoming addicted. On the other hand, high profile, celebrity addiction cases are fueling a media frenzy and adding to the perception that chronic pain sufferers are really addicts in waiting and that narcotics should be avoided at all costs. Add to this the politics of the decades old War on Drugs, and you get a volatile mix of opinions, hyperbole, and political agendas where the only true losers are the people who continue to suffer on a daily basis.

While it would be nice to turn down the noise and take an objective, scientific look at the use of opioids to treat chronic pain; unfortunately, the results from the scientific community to date have been inconclusive. Clearly, narcotic drugs offer pain relief. However, how much relief they provide to people suffering from chronic, neuropathic pain remains unclear. It is also clear that opioids have very significant side effects which make taking them unbearable for some people.

A controlled study published in the March 27, 2003 issue of the New England Journal of Medicine demonstrates that while opioids offer hope to some people, they are not a cure-all. Dr. Michael Rowbotham and his colleagues from the Pain Clinical Research Center, at the University of California, San Francisco, conducted a double-blind, randomized, study to evaluate the effects of an opioid - taken by mouth - on chronic, neuropathic pain.

The study involved 81 adults who suffered from neuropathic pain due to causes such as post-herpetic neuralgia, post-stroke central pain, spinal cord injury, and multiple sclerosis. The participants could not have used opioids before and were screened for drug, alcohol, psychological, and other health problems. In addition, all participants had unsuccessfully tried to control their pain with other types of drugs. Once accepted into the program, the participants were randomly assigned into a group which would receive either a low dose of an opioid (Levorphanol), or a high-dose of the drug. Neither the participants, nor the doctors running the experiment knew which group the participants were assigned to.

In both groups, the pain medicine dosage was ramped up gradually over a period of 4 weeks, after which the participants could control their own dosing - up to pre-set limits - for an additional 4 weeks. During this time period, the participants were encouraged to find a dosage that balanced the pain benefits with any negative side effects. The participants were then tapered off the drug over a third 4 week period. While taking the drug, the participants recorded their pain levels (0-100) and whether the drug provided relief in a daily pain diary. In addition, their psychological state and quality of life were periodically assessed using the Multidimensional Pain Inventory (MPI) and other assessment tools. The MPI is a well recognized questionnaire which assesses the impact of pain on quality of life, perceived social support, and ability to perform daily activities.

As might be expected, both groups experienced a reduction in pain, with the high-dose group benefiting more than the low dose group. Measured on a scale from 0-100, the high-dose group experienced a 36% reduction in pain on average. The low-dose group, in contrast, experienced a 21% reduction. It should be noted that the pain levels were still significant for both groups even with the drug benefits, an average of 42 for the high-dose group and 53 for the low-dose group.

In addition to pain relief, both groups reported better sleeping and less interference in their functioning, but interestingly, there was no difference in these scores between the two groups. Many metrics, such as ability to do chores and outdoor work were not improved in either group.

Side-effects proved to be a significant problem for many, with 22 people dropping out of the study, mostly due to adverse side-effects. While this seems high, it is actually in-line with other narcotic studies which generally have a drop-out rate near 25%. The high-dose group reported more severe side effects than the low-dose group, including anger, irritability, and mood changes, in addition to general drowsiness and confusion.

Despite the rigorous design, the researchers acknowledge that their study does have some limitations. Ideally in a study like this, one group would receive the pain medicine and one group would receive a placebo. However, the researchers chose to use a low-dose, high-dose design because the side-effects of a narcotic make it difficult to use a placebo without people knowing which group they are in. In addition, the length of the study was too short to evaluate two well known problems with narcotics, tolerance and addiction. An 8 week period is probably not long enough for the participants to develop a tolerance to the drug which in practical terms means that pain sufferers need to increase their dosage over time. And while no participants had problems going off the drug, again the study was too short to truly evaluate addiction as a problem.

This study highlights the mixed bag that opioids offer. For some people with chronic, neuropathic pain, the drugs offer at least some much needed relief. But for others, the side effects are too much and are not worth whatever relief they bring. And for society as a whole, the specter of addiction continues to cast a pall over the whole subject and interferes with the effort to help those who need it most.

peripheral pain - pain arising from the outer - or peripheral - nervous system, the ends of the nerves

post-herpetic neuralgia - abnormal pain which results from nerve damage due to herpes zoster - also known as shingles

prospective study - type of scientific study which looks forward in time; generally, participants are divided into groups, receive treatments, and the results are evaluated

refractory - not responsive to treatment

retrospective study - scientific study which uses medical records to look at events that occurred in the past

Levorphanol

- Narcotic used to treat moderate to severe pain
- Comes in tablet form
- Side effects include: drowsiness, lightheadedness, dizziness, nausea, upset stomach, constipation
- Can be habit-forming

Source: National Institutes of Health web site