**Ketamine and Therapy Resistant Chronic Pain**

Ketamine is an anesthetic agent that has been used for many years in emergency rooms and operating rooms around the world. It is also used as animal tranquilizer, and is a drug of abuse not only here in the U.S., but especially in Asia.

**Ketamine Treatment**

Ketamine has long been known to interact with certain chemical pain pathways in humans. Anesthesiologists have studied the preventative effect of ketamine when given before and during surgical procedures. Studies indicate ketamine may reduce the development of long term chronic pain development after surgery. Studies also show ketamine may also reduce depression, although the mechanism of how it acts as a mood elevator is not known.

Using this same chemical pathway, ketamine may be able to attack chronic pain that has not responded to other standard therapies, such as nerve blocks, opiates, antidepressants and gabapentin/pregabalin. Specifically, ketamine is under study for use in treating refractory nerve pain (neuropathic conditions such as CRPS and neuralgia/neuropathy) and other types of pain such as fibromyalgia and headaches. It is well known that chronic pain causes depression, and that depression can cause chronic pain. Thus it is thought that some of the pain relieving effects of ketamine may be related to improving mood.

Current data on short term infusions indicate that ketamine produces potent analgesia during administration only, while three studies on the effect of prolonged infusion (4-14 days) show long-term analgesic effects up to 3 months following infusion. One problem with ketamine for chronic pain is that there is no standardized dose or protocol for use. Some use IV ketamine, some use oral or nasal, and some a combination. Since ketamine is not FDA approved for depression or pain therapy, there have been few systematic studies to determine the optimal treatment protocol.

According to Dr. Steven Cohen, at John Hopkins “One randomized, double-blind, placebo-controlled trial (Pain. [2009;147:107-115](http://journals.lww.com/pain/Abstract/2009/12150/Outpatient_intravenous_ketamine_for_the_treatment.21.aspx)) that compared a 4-hour ketamine infusion to saline on 10 consecutive workdays in 19 patients with CRPS. That study showed pain scores decreased from a mean of 7.7 to 6.1 at 2 weeks in the treatment group, with the effect maintained throughout the 12-week study period, while the placebo group had a nonsignificant change in pain scores. In this study, the ketamine group had a decrease in nocturnal awakenings at 12 weeks but no increase in quality of life compared with placebo. About 44% of the ketamine and 20% of the placebo patients experienced adverse events, including dysphoria and fatigue.”

**Ketamine Side Effects**

The side effects of ketamine noted in clinical studies include psychedelic symptoms (hallucinations, memory defects, panic attacks), nausea/vomiting, somnolence, cardiovascular stimulation and, in a minority of patients, liver toxicity. Dizziness, fatigue and drowsiness are common with infusions. Thus, it is clear that ketamine should only be used under close medical supervision. However, clinical side effects can be minimized when used under medical supervision and with other medications to reduce side effects.

**Ketamine Summary**

In sum, ketamine may be able to reduce pain for several months in some patients with therapy resistant chronic pain conditions. However, the therapy is not FDA approved, there are no standardized protocols for use, and therapy is not without risk. The physicians at Newport Pain Management, Newport Beach, CA, can help you decide if ketamine therapy is right for you.