

Frederick outlived his prognosis by a year. He died on Nov. 26, the same day that Kevorkian killed Margaret Garrish.

Frederick's discovery, one of dozens of multi-faceted approaches available for treatment of pain, could have solved a number of Garrish's problems, including her depression and even the phantom limb pain that she may have experienced after the partial amputation of her legs. Specialists have found several approaches that help, including the use of an epidural *before* the limb is removed, and nerve stimulation afterwards.

Treatment for cancer patients

But, what treatment and pain relief could have helped the eight or nine other Kevorkian victims who had cancer?

Ronald Masur was gassed to death on May 16, 1993, after his lung cancer spread to his bones. **Lois Hawes** was murdered on Sept. 26, 1992, just months after she was diagnosed with lung cancer. While it is not clear whether they

would have been candidates for the National Cancer Institute's (NCI) high-priority clinical trial (meaning the treatment studied is very promising) for patients with lung cancer (Study #INT-0115), information on NCI's trials, other lung cancer treatment, and newest pain management protocols is readily available (1-800-4-CANCER). NCI's International Cancer Information Center also produces two cancer databases with summaries of state-of-the-art cancer treatment and ongoing clinical trials, investigational or newly approved drugs.

Gary Sloan had colon cancer and died on March 4, 1991, after an alleged friend constructed and used Kevorkian's murder machine with diagrams Kevorkian had sent to him in California. If Kevorkian were a legitimate physician, he would have told Sloan about NCI's high-priority trials that are studying the most effective treatment for colon cancer.

Faced with life-threatening cancer, Masur or any of Kevorkian's victims, whatever their disease, may have had the chance to use experimental drugs approved by the U.S. Food

What's available in pain management

In 1994, the Agency for Health Care Policy and Research (AHCPR) in Rockville, Maryland, part of the U.S. Department of Health and Human Services, produced clinical practice guidelines for management of acute, post-operative pain and cancer pain among patients of all ages. The guidelines for clinicians and patients are available through the AHCPR or the National Cancer Institute (1-800-4-CANCER).

Prior to the AHCPR pain studies, a relatively new specialty of pain management developed out of the recent recognition that pain, especially debilitating chronic pain, can cause a host of secondary problems which persist long after the original injury or trauma is resolved. Thus, specialists from the fields of psychiatry, neurology, physical therapy, and anesthesiology all opened clinics offering pain relief treatments perfected by—and often limited to—their particular field. A neurologist might offer a spinal implant or nerve block, but for a situation in which a much less invasive, less radical approach might have worked equally well. And, like any field, there are sham operators who prey on desperate individuals. Most promising are those clinics or hospitals that utilize a team of specialists who can offer a multidisciplinary approach to assess the pain's cause and to determine how best to treat its symptoms.

'A whole new life'

Consider the case of Norma G., a 66-year-old woman, who contracted polio as a child. At age 13, she entered a hospital, living there for the next two and half years, during which she underwent five corrective surgeries and fusions of her spine for severe scoliosis. She went on to marry and have children, while the curvature of her spine intensified, curving her spine into, she says, a pretzel, crushing her ribs into her lungs, intestines, and other organs. Over the last decade, muscle spasms so wracked her body that sleeping pills, huge amounts of muscle relaxants, and the ten doctors she consulted over as many years offered no relief. The pain was so intense, she could no longer stand, walk, or eat. She used a wheelchair, became bedridden, then suicidal. She would try one more doctor, at a hospital's multidisciplinary pain-management clinic.

Norma says she didn't believe in miracles, but says this doctor gave her a whole new life. She now works a 12-hour day, "actively" baby-sitting her grandchildren (they're all under nine years old!). She would have been a candidate for a nerve block, but the severe compression of her spinal nerves precluded that. Instead, she takes methadone, a synthetic form of morphine, with another medication to counteract drowsiness. She has experienced no side-effects. Norma says people who last saw her five or ten years ago, don't recognize her.

While doctors increasingly recognize that high-dose pain medication for cancer or post-operative discomfort does *not* automatically create the psychological addiction in a patient that was once feared, it is also the case that there are now a growing number of more sophisticated

and Drug Administration's treatment IND (Investigational New Drug) program. The FDA can link patients with new drugs submitted for approval.

Stopping cancer with one injection

Scripps Research Institute in San Diego, California has developed a new therapeutic approach that prevents the metastatic spread of virtually all types of tumor cells in man by eliminating their access to the blood supply needed to grow. A single injection of LM609 was found successful in targeting blood vessels entering tumors, while leaving normal blood vessels unaffected. This selective and systematic obliteration of vascular cells ultimately leads to regression of preestablished human carcinomas of lung, breast, pancreas, brain, and larynx, and of melanomas. Researchers intend to move this breakthrough through the pipeline and begin human trials within the year.

It is likely that **Jonathan David Grenz**, who had throat cancer, would have benefitted from such clinical trials. Grenz

was Kevorkian's 15th victim, dying on Feb. 18, 1993 after being emotionally devastated by his mother's death and his own cancer. An NCI high-priority trial is studying three different treatment protocols for laryngeal cancer.

Could other trials, treatment INDs, or established treatment protocols have helped Kevorkian victims **Stanley Ball** and **Mary Biernat**? Both had cancer, both were murdered on Feb. 4, 1993. They might be alive today had someone called the National Cancer Institute-designated Comprehensive Cancer Center at the Michigan Cancer Foundation in Detroit (313-833-0710).

The center, one of only two nationally, participates in all of NCI's clinical trials and provides state-of-the-art diagnosis and therapy methods. It was here that AZT, the first FDA-approved drug for the treatment of AIDS, was created. The center's many facilities include its headquarters at the Detroit Medical Center and its seven university-affiliated hospitals, Wayne State University, and the Vaitkevicius Magnetic Resonance Imaging (MRI) and Spectroscopy Center, where re-

options—other than opiates or narcotic-induced comas—available for relief. Norma's doctor explained that long-term use of methadone—the substitute for heroin addiction—would not be appropriate for most people, but it was right for Norma.

Here are a few of the other options available:

Intraspinal drug infusion therapy. Even intractable pain that does not respond to conventional therapies can be controlled without sedation by means of a pump that dispenses minute amounts of anesthesia directly into the spinal cord. The one-inch-thick pump can be refilled every four months with a needle through the skin into the port at the center of the pump. The dose, rate, and timing of the medication to be released can be programmed and adjusted by holding a small computer over the skin to transmit the adjustments by a radio signal.

Adjuvants. Tricyclic antidepressants (at doses too low to treat depression) have been hailed for their ability to restore a patient's normal nighttime sleep. When administered with certain pain medications, their analgesic or pain relief potential is enhanced.

Radiopharmaceuticals. For metastatic bone pain from thyroid, prostate, breast, and bone cancers, radiopharmaceuticals like *Metastron* (strontium-89) are injected, and follow the same biochemical pathways of calcium in the body into the mineral structure of bone. The uptake of *Metastron* is enhanced at sites of bone malignancy, and its retention in these sites is prolonged compared to normal bone. The result is total or near total pain relief for up to six months, without sedation.

Implants. One of the newest therapies in investiga-

tional trials is an implant into the spine of tiny plastic cylinders the size of pencil lead, filled with adrenal cow cells. The tube's tiny pores allow a continual dispersal of pain-killing substances called enkephalins and endorphins through the person's system, but the pores are too small for the proteins of the body's immune system to get in and reject the implant. Manufacturers think the implant will help end-stage cancer patients for whom pain can be unrelenting.

Nerve block. In cases of severe nerve damage or for control of intractable pain, an injection of a local anesthetic can be given into the surrounding nerve or directly into the spine. In some cases, an injection of an anti-inflammatory, cortisone, is injected with the anesthetic. When other options fail or are inappropriate, the nerve causing the pain may be destroyed through a variety of means. With cryoanalgesia, doctors freeze the nerve, destroying it, while leaving its shell or architecture intact to allow it to grow back. For example: the case of a 30-year-old nurse who was forced to stop work after a severe fall damaged nerves in her tailbone. When doctors froze the damaged nerves, she returned to work pain free.

Spinal Cord Stimulation (SCS). Patients with severe, chronic pain in the legs, arms, or lower back have benefited from a small implanted device that stimulates the spinal cord with tiny electrical signals that interfere with the transmission of pain signals to the brain, thus reducing the sensation of pain. SCS can be used to relieve pain sensations associated with amputations (phantom limb pain) or "failed back" patients (where spinal surgeries failed).—*Linda Everett*