

LDN and Cancer

Although prospective, controlled clinical trials on LDN in the treatment of cancer are yet to be accomplished, as of March 2004 clinical ‘off-label’ use of this medication by Dr. Bihari in some 450 patients with cancer — almost all of whom had failed to respond to standard treatments — suggests that more than 60% of patients with cancer may significantly benefit from LDN.

Of the 354 patients with whom Dr. Bihari had regular follow-up, 86 have shown objective signs of significant tumor shrinkage, at least a 75% reduction. 125 patients have stabilized and/or are moving toward remission.

Dr. Bihari’s results sharply contrast to prior usual cancer treatment outcomes: either a cancer-induced death or a total cure. LDN therapy presents a viable third alternative, the possible long-term stabilization and/or gradual reduction of tumor mass volume.

Thus, with LDN, cancer can — in some cases — become a manageable chronic disease. Patients have the possibility of living free of symptoms, without, in many cases, the crippling side-effects of chemotherapy and radiation treatment.

How It Works

Low dose naltrexone might exert its effects on tumor growth through a mix of three possible mechanisms:

1. By inducing increases of metenkephalin (an endorphin produced in large amounts in the adrenal medulla) and beta endorphin in the blood stream;
2. By inducing an increase in the number and density of opiate receptors on the tumor cell membranes, thereby making them more responsive to the growth-inhibiting effects of the already-

- present levels of endorphins, which induce apoptosis (cell death) in the cancer cells
3. By increasing the natural killer (NK) cell numbers and NK cell activity and lymphocyte activated CD8 numbers, which are quite responsive to increased levels of endorphins.

Cancers that are reported by Dr. Bihari to apparently respond to LDN:

- Bladder Cancer
- Breast Cancer
- Carcinoid
- Colon & Rectal Cancer
- Glioblastoma
- Liver Cancer
- Lung Cancer (Non-Small Cell)
- Lymphocytic Leukemia (chronic)
- Lymphoma (Hodgkin's and Non-Hodgkin's)
- Malignant Melanoma
- Multiple Myeloma
- Neuroblastoma
- Ovarian Cancer
- Pancreatic Cancer
- Prostate Cancer (untreated)
- Renal Cell Carcinoma
- Throat Cancer
- Uterine Cancer

What the Future Holds

If the results of trials of low dose naltrexone in certain cancers are positive, the drug could eventually become an additional mainstay of cancer treatment — adjunctive with chemotherapy, radiation, and other cancer cell growth inhibitor receptor agonists — or even a replacement for current therapies, as primary treatment for those cancers that show little response to standard therapies.

It will clearly require extensive study of LDN in prospective, controlled clinical trials to determine which cancers respond best and which other therapies are complementary to or synergistic with LDN.

LDN Alone in the Treatment of Cancer

Dr. Bihari now has 88 patients with cancer in complete or partial remission whose improvement appears to be clearly attributable to LDN alone.

In contrast, the vast majority of patients who consult with him for cancer tend to be on other concurrent treatments as well, which obviously interferes with drawing conclusions about LDN's role in their improvement. The successful LDN-only group includes five breast cancer patients, one patient who had widespread metastatic renal cell carcinoma, three with Hodgkin's disease and six with non-Hodgkin's lymphoma.

Other such cases, some now on LDN for as long as four years, include a score of patients with non-small cell lung cancer, as well as patients with ovarian cancer, uterine cancer, pancreatic cancer (treated early), untreated prostate cancer, colon cancer, malignant melanoma, throat cancer, primary liver cancer, chronic lymphocytic leukemia, multiple myeloma and some others.

Noteworthy Cases as of June 2004

Lung Cancer

C., a 61 year old woman, previously a heavy smoker, was found to have a lesion in the right upper lobe of the lung in 1999 and a supra-clavicular node in April 2001. Biopsy showed that the node was metastatic from the lung tumor. In August 2001 an MRI of the chest showed supra-clavicular clusters of nodes and stellate-shaped lesions in the apex of the right upper lobe. She then started taking low dose naltrexone. She began getting quarterly C-T scans of the chest, which have shown no change over the following 40 months. The C-T scan interval was changed to every 6 months. Her most recent C-T scan in the spring of 2004 continues to show no change from the August 2001 films.

Malignant Melanoma

L. is a 53 year old woman with metastatic malignant melanoma whom Dr. Bihari first saw in August 2000. Her primary skin lesion had been removed from the lower back in late 1976. A lump in the left groin was biopsy positive in December 1977. It appeared to respond to treatment with BCG in a clinical trial in January 1978. She was disease free for 20 years until a cancerous lesion appeared near the site of the original primary. It was removed surgically. She started a melanoma vaccine trial in April 1999 but developed two new skin lesions on the low back over the next six months. In February 2000 a bone scan showed a lesion in the left sixth thoracic rib, with growth evident on a repeat bone scan in April 2000, which also showed further lesions in the left sacrum and the L5 vertebra. She began taking low dose naltrexone in August 2000. She showed no growth of these three bone lesions and no appearance of new lesions over a forty month period since that time. She has remained on naltrexone only.

Esophageal Cancer

Reverend X is a patient at John's Hopkins Hospital where he received most of his medical care. He first developed problems with digestion and some pain in the mid-chest area with swallowing in April 2002. An upper GI exam in May 2002 showed narrowing and irregularity of the lower esophagus. In June 2002, a C-T scan of the chest, abdomen and pelvis showed a 2cm thickening of the lower esophagus extending into the upper stomach. Also seen were five enlarged nodes in the chest and five in the abdomen. Rev X refused chemotherapy and began low dose naltrexone in August 2002. In the following months his difficulty in swallowing has significantly decreased and his weight has stabilized. He notes an improved sense of well being. He has had no therapy but low dose naltrexone.

Throat Cancer

D., a 54-year-old man who had cancer of the tonsillar area in his throat along with two large metastatic lesions easily visible in his

neck, had refused the extensive head and neck surgery proposed by his physicians. They held out little hope for him. Thirty months ago, Dr. Bihari prescribed LDN. The patient's most recent contact with Dr. Bihari was in May 2004 when he was examined. The primary tumor had decreased by one-third in size and the two neck masses had regressed by about 50%. The patient had received no radiation or chemotherapy but had tried unproven alternative treatments obtained in Mexico.

Renal Cell Carcinoma

R., a 41-year-old man from Toronto with renal cell carcinoma, with metastatic lesions in his liver and lungs, contacted Dr. Bihari about 36 months ago. His oncologists told him there was no effective therapy available, and he said he was anxious to try treatment with LDN. There was no further contact with the patient until early 2002 when his wife called to thank Dr. Bihari. She said that he was doing quite well and that there had been complete clearing of the metastatic lesions as demonstrated by chest and abdominal CT scans.

Hodgkin's disease

H., a 36-year-old RN with Hodgkin's disease, was diagnosed in October 1991 with fevers, multiple infections (including toxoplasmosis of the brain), and a positive lymph node biopsy. She had a brief remission of several months following treatment with antibiotics and chemotherapy. She refused repeat chemotherapy when tumor activity resumed, and she remained ill with fevers and many gradually growing tumor masses (externally and internally) over the next four years. She started LDN in June 1997. No other therapy was provided. By October 1997, her fevers had cleared, all of her external enlarged lymph nodes had shrunk to normal, and all of the enlarged nodes seen in the spring of 1997 on CT scans were gone. She was determined by her oncologist to be in remission. Since that time, she has moved, gotten married, and not returned repeated phone calls. A long term friend reported that she continues to do

well except for some persistent memory loss (due to brain lesions associated with her toxoplasmosis). She has stayed on LDN since and, as of the last phone contact in October 2003, had had no sign of relapse.

Non-Hodgkin's Lymphoma

J., a 48-year-old man, had a CT scan in January 1999 because of low back pain after an auto accident. In addition to a bulging disc in his spine, the CT scan showed many enlarged abdominal lymph nodes. Biopsies of nodes in two locations were diagnostic of a non-Hodgkin's lymphoma. The patient refused chemotherapy and treated himself with antioxidants and multiple nutritional supplements. He added low dose naltrexone in October 1999. A repeat CT scan in late January 2000 showed a significant reduction in the size of the pathological nodes, each being reduced in size by about one-third. A more recent CT scan in early August 2003 showed further shrinkage of the enlarged nodes, which were reduced to less than 50% of their original size. The reduction of tumor mass occurred in the absence of chemotherapy or other standard treatments, with low dose naltrexone his only pharmacologic therapeutic agent.

B., a 75-year-old woman, was diagnosed with non-Hodgkin's lymphoma in January 1999 by a biopsy of an enlarged lymph node in the side of her neck. CT scans showed enlarged nodes in her chest and abdomen, as well as an enlarged spleen. Bone marrow biopsy showed '10% involvement'. Her oncologist recommended a wait and watch approach. She started LDN in July 1999. In January 2000, CT of the chest showed an approximately 50% decrease in the size of all the involved nodes. Repeat CT of the chest in November 2000 showed an 80% decrease in total tumor mass.

Prostate Cancer

M. is a 59-year-old man with prostate cancer, diagnosed with a biopsy and CT scan in September 1999. With no treatment other than low dose naltrexone, after 4 months on LDN his PSA dropped from 6.3

to 3.4. A special ultrasound, performed after 6 months on LDN, showed 65% shrinkage of the tumor. His PSA remained stable over the following 16 months when he became ill and died of what may have been a cerebrovascular accident.

Pancreatic Cancer

D. was an 82-year-old woman with pancreatic cancer, treated with surgical removal in April 1999. Scans showed that a tumor mass had reappeared in the pancreatic area in August 1999, and two metastatic lesions were noted in the liver at the same time. She started low dose naltrexone in September 1999 and stopped taking gemcytabine at that time after a short course of four weeks. Some four months thereafter, an MRI demonstrated disappearance of the primary tumor that had previously re-grown, and the liver metastases had cleared entirely. Two months later, D. had a heart attack and died.

Carcinoid

C. is a 53-year-old woman with carcinoid, a malignancy that generally arises in the appendix or small intestine and spreads to the bones and throughout the abdominal cavity. She started LDN in June 1999. At that time, she had considerable abdominal swelling, diarrhea two to three times a day, frequent episodes of flushing due to the tumor, poor energy and appetite, and significant metastatic spread to numerous bones. No other treatment for the cancer was administered; none was available. By December 1999, much of the cancer-induced swelling of the abdomen had receded, the diarrhea had completely stopped, the flushing had stopped, and the pain in her right elbow, due to a bony metastasis, had markedly decreased. Follow up in February 2001 indicated that she still had some of the above symptoms and, though clinically stable, was not showing further movement towards remission. A telephone follow-up call in April 2004 indicated that she was experiencing only minimal symptoms.

Multiple Myeloma

W. is a 72-year-old man with multiple myeloma, diagnosed in the summer of 1998 when a medical workup for severe back pain (that occurred while playing golf) revealed fractures of three vertebrae. Tumor was present in several other bones, blood counts were low, and a bone marrow biopsy showed 20% replacement of normal marrow with myeloma cells. His serum paraproteins were very high, as they often are in people with myeloma, at 12.6 and with no response to high dose chemotherapy. He started LDN in January 1999 and continued intermittent chemotherapy until October 1999. Since then, he had no chemotherapy but remained on LDN daily. There was a gradual normalization of all of his blood counts, as well as a drop in his abnormal serum proteins from 12.6 to a normal level of 1.4. Bone scans showed continued slow healing of affected bones, and two bone marrow biopsies showed no sign of myeloma. He had deferred plans for high-dose chemotherapy with stem cell transplant procedure which had been earlier, and had decided to ‘watch and wait’ while continuing nightly LDN. He was back to playing golf and tennis regularly, but there has been no contact since early 2003.

Breast Cancer

M. is a 41-year-old patient with breast cancer, diagnosed and treated elsewhere in 1998, whose course was complicated by a recurrence involving metastasis to the hip. Outpatient hospice services were sought. Her walking was so badly impaired that she had to be assisted by her friends on her first office visit to Dr. Bihari in June 2000 — at which time she began LDN. She revisited his office in mid-October and reported that she not only was able to return to work but also was well enough to play tennis again. Repeat bone scan in October 2000 showed a 40% reduction in metastatic tumor mass. She then enrolled in an experimental chemotherapy trial at a major cancer treatment center in New York in December of 2001 and died of liver failure on the fourth day of the trial.

Ovarian Carcinoma

V., a 49-year-old woman, first visited Dr. Bihari in early September 2000. She had a five-year history of ovarian carcinoma, with a persistently growing tumor despite repeated courses of chemotherapy and multiple de-bulking surgeries. There was recent increased involvement of the descending colon with the disappearance of formed stools, and she was now experiencing vomiting. Hospitalization was under consideration. She had lost 15 pounds in the two weeks prior to her visit. She was started on LDN at that time, in addition to her existing low-dose Taxol therapy, and within ten days the signs of large bowel obstruction had disappeared. In four weeks, a repeat CA 125 revealed that this tumor marker had dropped from 1600 to 87. Within the first week of November 2000, it was reported down to 42, and her gynecologic oncologist told her that, on abdominal-pelvic examination, he found no masses. She had regained some 25 pounds and felt 'wonderful'. A repeat MRI showed no visible masses. In March 2001, the CA 125 had risen to 52, then 70, with no return of symptoms or of palpable masses on abdominal and pelvic exams. However, in October 2001 the abdominal masses recurred despite LDN and she died of metastatic cancer four months later.

Non-small Cell Lung Cancer

M. is a patient in his late 50's who first visited Dr. Bihari in June 2000. A chronic cigarette smoker, he was told in May 2000 that he had metastatic non-small cell lung cancer. Many abnormal opaque areas had been seen on his chest x-ray, and a biopsy performed on a sizable mass in his right neck had confirmed the diagnosis. He had refused chemotherapy. On examination, he had a 3cm x 4cm x 2cm mass in his right neck. He was started on LDN in mid-June 2000 and, at the beginning of November, revisited Dr. Bihari for the first time. At that time, the patient reported that energy was better and his appetite was good. He had regained 15 pounds, and had returned to working full time. The volume of the neck mass appeared to have decreased by 50%. An MRI exam in November 2000 showed 80% shrinkage of the right neck mass and 20% shrinkage of the masses in

both lungs. As of April 2004, the mass in his right neck remained halved in size, with no further growth of his pulmonary lesions.