Experience with Alpha-Lipoic Acid plus Low-Dose Naltrexone (ALA/N) for various cancers and autoimmune disease.

Invitational Lecture National Cancer Institute  
2012  
and  
2013 LDN Conference  
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Palatine, Illinois

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Low Dose Naltrexone plus Alpha Lipoic Acid

• Not a cure for cancer, however, some people do very well for long periods of time and some don’t have any tumor progression.

• And some tumors go dormant and don’t show up on PET scans years after terminal diagnosis by conventional therapists.
Low Dose Naltrexone (LDN)

- 3.0 to 4.5 mg at bedtime causes Endorphin/enkephalin blockade.
- In morning there is a flood of endorphins and enkephalins etc.
- Cancer cells have enkephalin receptors that slow cellular growth.
- Several papers (Plotnikoff NP, Zagon I etc.) have shown that increased met-enkephalin (opiate growth factor, OGF) production slows the growth of cancer cells by attaching to their receptors.
Low-dose naltrexone may reverse the development of tolerance of opioids by its binding to filamin A (cell cytoskeleton).

Endogenous opioids are known to produce analgesia. An increase in endogenous opioids through LDN use may result in less pain.

LDN binds to Toll-Like Receptor 4 (TLR4 activates innate immune cells), thus blocking inflammatory Lipo-Poly-Poly-Saccharides (LPS). This action prevents the LPS from producing inflammation.
In the late 1970’s Dr. FC Bartter and I treated 79 patients with Acute Hepatic Necrosis at various medical centers across America.

75 regenerated their livers using just intravenous Alpha-Lipoic Acid (Thioctic Acid)
Amanita verna
Longtime picker meets match in mushroom patch

By Karen R. Long

Gregg Finohr swears he'll never do it again.

Finohr, an 11-year veteran of mushroom-picking who usually hunts carefully with a field guide, entered Mount Sinai Hospital last Friday with severe mushroom poisoning. He still has muscle cramps but is grateful to be alive.

“God, I'll never eat them again,” he said. “This is just crazy. I can't believe this happened.”

Finohr, 28, nearly died after eating between 10 and 14 wild mushrooms he assumed were related to the edible Lumpy-cap species.

“I stopped at a field out by Avon Lake to kill some time,” he said yesterday from his hospital bed. “I noticed a lot of mushrooms around. I usually have a field guide with me but I didn't this time. I picked a quantity, went home, cleaned and stored them, eating a few while I cleaned. The next morning I ate a few more from the refrigerator and that's when I got sick.”

Finohr, of 13988 Clifton Blvd., Lakewood, did not make the common mistake of thinking he had the flu. He called the Poison Control Center.

Finohr poisoning specialist, Dr. Burton M. Berkson.

Berkson did not pump Finohr’s stomach.

“He didn't get sick until 16 hours after eating them,” the doctor said. “By that time all the poison was absorbed. I gave him an antibiotic to bind (deactivate) any unbound toxins which might still be in his bloodstream.”

Berkson, who has a doctorate in mycology, the study of fungi, believes Finohr ate a member of the genus Cortinarius. He ordered a special drug, thioctic acid, to be flown in from Washington, D.C.

The characteristics of mushroom poisoning are divided into four stages. Finohr suffered the first two before his thioctic acid treatments began Saturday.

The first stage is a period of well-being, lasting 12 to 36 hours. The second is similar to stomach flu, with diarrhea and vomiting, and lasts one or two days. The third stage is apparent recovery, when the doctor maybe the patient is better. The last phase is hepatic coma and sometimes death.

Cleveland had one death from mushroom poisoning last year.

This is the season for mushroom picking—a pastime that Berkson said is especially popular in Greater Cleveland. His advice is to refrain. “But I have the feeling people aren’t going to avoid them, so it’s best if they know the mushroom characteristics well.”

The young construction worker said he hopes others take note of his ordeal. “I didn’t think it would happen to me,” he said. “But I read about it (the danger) but I never thought it would happen to me.”

Dr. Burton Berkson checks the pulse of Gregg Finohr, a victim of mushroom poisoning.
FC Bartter MD (Chief NIH), Barry Rumack MD and Burt Berkson MD MS PhD as visiting Scientists at the Max Planck Institute in Heidelberg, Germany 1978
THIOCTIC ACID IN THE TREATMENT OF POISONING WITH ALPHA-AMANITIN

Berkson BM. 

*A conservative triple antioxidant therapy for hepatitis C.*

*Combination of alpha lipoic acid (thioctic acid), selenium, and silymarin* 

Thiooctsäure
ACTIONS OF ALA

FREE RADICAL SCAVENGER
MODIFIER OF GENE EXPRESSION

ANTIOXIDANT RECYCLER

GLUTATHIONE GENERATOR

ALPHA-LIPOIC ACID
OXIDIZED/REDUCED

STIMULATES ORGAN REGENERATION

PREVENTS ISCHEMIA-REPERFUSION INJURY

ENHANCES INSULIN SENSITIVITY

HEAVY METAL CHELATOR

RESTORES T CELL FUNCTION

RATE LIMITING FACTOR/ FOOD TO ENERGY
Pyruvate + CoA + NAD⁺ → Acetyl-CoA + CO₂ + NADH + H⁺
What about ALA and cancer?

Cancer cells hate oxygen.

Healthy primate mitochondrion
ALPHA-LIPOIC ACID RECYCLES OTHER IMPORTANT ANTIOXIDANTS
Biewenga, 1997
Primate mitochondria following LD50 studies
About 90mg/kg
LIVER MITOCHONDRIA SUFFERED SEVERE STRUCTURAL DAMAGE BY EXTREMELY HIGH DOSES OF INTRAVENOUS ALPHA LIPOIC ACID

in press Global Advances in Health and Medicine 2013

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Lipoic disrupts cancer cell mitochondrial metabolism and is potent anticancer agents in vivo.

Zachar Z, Marecek J, et al

Lipoic acid disrupts tumor mitochondrial metabolism and is followed by cell death by apoptosis and necrosis with low side-effect toxicity.

This study provided evidence that ALA can induce cancer cell death by a prooxidant mechanism that is initiated by an increased uptake of oxygen into the mitochondrion.
Antiproliferative effects of α-lipoic acid in human colon cancer cells in vitro.
Alpha-lipoic acid induces apoptosis in tumor cell lines and no apoptosis in normal cell lines.

van de Mark K, Chen JS, Steliou K, Perrine SP, Faller DV.

The differential selectivity of the pro-apoptotic effects of alpha-lipoic acid for cancer cells supports its potential use in the treatment of cancer.
Alpha-lipoic acid induces apoptosis and necrosis in hepatocellular carcinoma cells.

Alpha-lipoic acid stimulates apoptosis in human breast cancer cells.

and

Alpha-lipoic acid induces apoptosis of lung cancer cells.
Lipoic Acid Plus Low-Dose Naltrexone Reviewed for Cancer Treatment

- NCI staff and invited guests listen to Drs. Berkson and Donahue discuss their research and treatments on March 19, 2012
- A panel of researchers and clinicians was convened by the National Cancer Institute (NCI) for presentations and a roundtable discussion about “The State of the Science of Alpha-Lipoic Acid plus Low-Dose Naltrexone for the Treatment of Cancer.” The meeting was hosted by the Cancer Therapy Evaluation Program (CTEP), both part of the NCI Division of Cancer Treatment and Diagnosis (DCTD). The meeting provided an opportunity for NCI staff and outside experts to review and discuss case reports from Dr. Burton M. Berkson, an integrative medicine physician and Ph.D. in Biological Sciences, and Adjunct Professor at New Mexico State University. Dr. Berkson presented on his experience treating patients with alpha-lipoic acid (ALA) plus low-dose naltrexone (LDN) for various cancers and autoimmune diseases. The group also heard from Dr. Renee N. Donahue, Research Fellow in the Laboratory of Tumor Immunology and Biology at the NCI Center for Cancer Research, about her pre-clinical research on the efficacy and proposed mechanism of action of LDN for the treatment of cancer. Dr. Farah Zia, Director of OCCAM's Case Review and Intramural Science Program, noted, “The cases being presented today by Dr. Berkson were submitted and given rigorous scientific evaluation under the NCI Best Case Series (BCS) protocol. The ultimate goal of the BCS is to identify those complementary and alternative medicine (CAM) interventions that have enough evidence to support NCI-initiated research.”

Dr. Berkson demonstrated success using ALA to repair liver damage in patients from mushroom poisoning or chronic infections with hepatitis C virus. He also cited a number of research articles in European medical journals showing ALA’s beneficial effects on cancer.
PRIMARY HEPATOCELLULAR CARCINOMA
Mrs. JAL
60 year old RN
B-CELL LYMPHOMA
Mrs. TES

47 year-old med. Tech.
Severe RA first visit
Treated with ALA/N
Improved
Rheumatologist prescriber Humira
She developed B-cell lymphoma
MRS TES

- Off Humira
- Enlarged lymph nodes did not disappear
- Back on ALA/N
Pancreatic Cancer Survival Curve
MD Anderson Hospital 2008
“The long-term survival of a patient with pancreatic cancer and metastases to the liver”

Berkson BM, Rubin DM, and Berkson AJ
Integrative Cancer Therapies
Volume 5, Number 1, March 2006
Mr. JA

- 46 year-old male from New Mexico.

- Presented to the ER with vague abdominal pain, Oct, 2002.

- CT revealed a dense mass in the head of the pancreas and at least 3 lesions in the liver.

- Fine needle biopsy of the liver metastasis revealed a poorly differentiated adenocarcinoma.
Following diagnosis JA was sent to an oncologist for chemotherapy.

He received a 21 day course of gemcitabine and carboplatin.

JA became very leukopenic and thrombocytopenic.

The oncologist stopped therapy and offered no hope for survival.
• JA sought a second opinion from MD Anderson Hospital

• After a work-up and review of records and biopsies, the patient was told that his condition was hopeless and he should go to hospice.
• JA presented to my office and told me that he had a young son and did not want to die.

• I told him that I was not an oncologist, however, I would try to find a protocol that might prolong his life.
MR. JA
MEDICAL PROGRAM

- Diet, nutritional, and palliative support.
- Prescription drugs.
- Modulation of immunity.
JA’S PROTOCOL

Healthy life-style program.

Low dose naltrexone 4.5 mg qhs

Alpha-lipoic acid IV and PO and B-complex vitamins.

Alprazolam 0.25 qhs prn.

Cimetidine 300 mg. qhs.
MR. JA AFTER SECOND WEEK OF TREATMENT

• “I’m beginning to feel normal again.”

• On January 3, 2003, A repeat CT was performed.
  (3 months following diagnosis)
JANUARY 3, 2003
STABLE HEPATIC LESIONS
MR. JA

- The course of events were uneventful.

- JA went back to work full-time feeling normal (January, 2003)
FEBRUARY 24, 2003
STABLE HEPATIC LESIONS
MR TA

• As TA continued his treatment plan, he wanted follow up CT scans at regular intervals.

• The CT’s revealed no significant changes.
FEBRUARY, 2006
40 MONTHS POST DX
CT scan 6 years following initial diagnosis
August 2008
80 year old female from San Francisco. Painless jaundice.
CT scan in November 2005 showed a pancreatic head tumor with possible liver involvement. Ca 19-9=356
Placement of internal biliary shunt.
JK refused chemotherapy.
Mrs. JK

- Same protocol as JA
June 2006
6 months later
MRS. JK

- Large tumor seen on PET scan November 2005
- No tumor seen on PET scan June 2006.
- Treatment with LDN 4.5mg. Qhs and ALA.
- Healthy life-style and diet supplemented with ALA orally and intravenously two times a week and and various vitamins.
MR. RC
PANCREATIC CANCER

- 67 year old male from Chicago arrived IMCNM November 2006.
- Post brachy-therapy for prostate cancer.
- Post chemotherapy for B-cell lymphoma
- Pancreatic cancer with metastases to liver May 2006.
- Treated with ALA/N starting November 2006.
- Not adherent to life-style or diet.
Mr. RC

- His CEA dropped from 53.6 to 2.6 and his CA 19-9 dropped from 146 to 113.
- RC felt so good that he scheduled surgery to have an internalization of his external biliary drain in San Diego.
- The California oncologist recommended a course of Gemcitobine just to be safe.
- Oncologist took RC off ALA/N
- RC developed septicemia and expired in the hospital.
THE LONG-TERM SURVIVAL OF A PATIENT WITH PANCREATIC CANCER WITH METASTASES TO THE LIVER

Berkson BM, Rubin DM, and Berkson AJ
Integrative Cancer Therapies
Volume 5, Number 1, March 2006
REVISITING THE ALA/N PROTOCOL FOR PEOPLE WITH METASTATIC PANCREATIC CANCER
REPORT OF 3 NEW CASES

62 YO male in construction business.

Biopsy=B-cell non hodgkins lymphoma.

Lymphoma started after EBV infection and Bells Palsy.
MR. TM
TREATMENT PROGRAM

• 4.5 mg. LDN at bedtime.
• Had only 2 weeks of IV ALA.
• Not adherent to life style, diet, or supplement regimen.
REVERSAL OF SIGNS AND SYMPTOMS OF A B-CELL LYMPHOMA PATIENT USING LDN

BERKSON BM, RUBIN DM, BERKSON AJ
Integr Cancer Ther. 2007 Sep;6(3):293-6.
ALA plus LDN works best for autoimmune disease.
SUMMARY

• A few interesting case histories.
• Several others are alive and doing well.
• Several have died.
• I don’t think ALA/N cures cancer, however, with several people, it prolongs their lives and sometimes reverses the disease process and they live for years free of the disease.
• ALA/N is most effective for autoimmune disease.
  The ALA/N protocol works best with lupus and RA.

Burton M. Berkson MD MS PhD
Books describing therapies
Also type in Berkson BM on Google, Google Scholar, or PubMed