



Polio Survivors' Page

L-Carnitine and Post-Polio Syndrome

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September 1994

Between 1991 and 1993 Dr. Thomas Lehmann from Switzerland, treated 27 persons with Post-polio syndrome with 1000 (-3000) mg/day of L-carnitine. The results were

| | Better | Worse | No effect | no response |
|-------------|----------|-------|-----------|-------------|
| Endurance | 18 (72%) | 0 | 7 | 2 |
| Fatigue | 6 (30%) | 0 | 14 | 7 |
| Sleep | 7 (29%) | 3 | 14 | 3 |
| Standing up | 12 (48%) | 0 | 8 | 2 |
| Strength | 17 (68%) | 0 | 8 | 2 |
| Pain | 14 (58%) | 0 | 10 | 3 |

Appropriate double blind crossover studies still need to be done.

L-Carnitine - from "meat" (Latin: carnis) has been known for a long time. It is found mainly in the meat and liver of sheep, lambs, rabbits, in milk and in yeast. L-Carnitine is a prescription drug in Europe and is marketed in health food stores in the United States. It is available in health food stores in combination with aminoacids in Canada.

It was originally classed as Vitamin B11 but can be produced in the body from methionin and lysine (with the aid of vitamin B6, vitamin C, niacin, pantothenic acid and iron) in the kidneys and liver. It is stored in muscles and liver. It is excreted by the kidneys. There is no known L-Carnitine toxicity. It has been reported that acetyl-L-Carnitine is more effective than L-Carnitine. D-Carnitine inhibits the action of L-Carnitine.

The theory of why L-Carnitine works in post-polio syndrome is as follows.

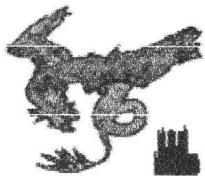
The paralyzed or weakened muscles of the polio survivor are atrophying or atrophied as a result of the late effects of polio. Because there is less muscle, there is less possibility to store L-Carnitine. When tissues become acidic (lactic acid from overuse) or there is desaturation of oxygen (due to respiratory insufficiency or bad vascularization) the concentration of L-Carnitine is lower in the blood, tissues and cells. The (over)use of muscles (whether atrophied or overused in compensation) has been shown to cause a local fall in levels of L-Carnitine. L-Carnitine improves the metabolism of oxygen, fat and glucose and inhibits the use (abuse) of muscle proteins for energy production. The deregulation or decompensation of the metabolism of fatty acids, glucose, oxygen, and energy (necessary for good muscle function) because of a lack of L-Carnitine could result in fatigue and weakness of the muscles.

More studies need to be done and the results published. Research on L-Carnitine is currently being done in Europe and Australia. A strict vegetarian or vegan diet is very low in L-Carnitine and could accelerate weakness. I do not recommend that every polio survivor take L-Carnitine pills because we don't know about toxic side effects yet. While we are waiting for the final answer, it would make sense for polio survivors to keep meat in their diets.

Resources:

Simon, Roberta & Darien, R.N, *WHAT'S HAPPENING WITH RESEARCH MEDICATIONS*, 1991, POLIO NETWORK NEWS

Lehmann, Thomas, MD, *L-CARNITINE AND POST-POLIO SYNDROME*, 1994, Handout - 6TH INTERNATIONAL G.I.N.I. CONFERENCE



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Document Reference: <URL:<http://www.eskimo.com/~dempt/lcarn.htm>>

Last modification: 12th December 1997