# ALCOHOLISM (ADDICTION) IS A TREATABLE DISEASE

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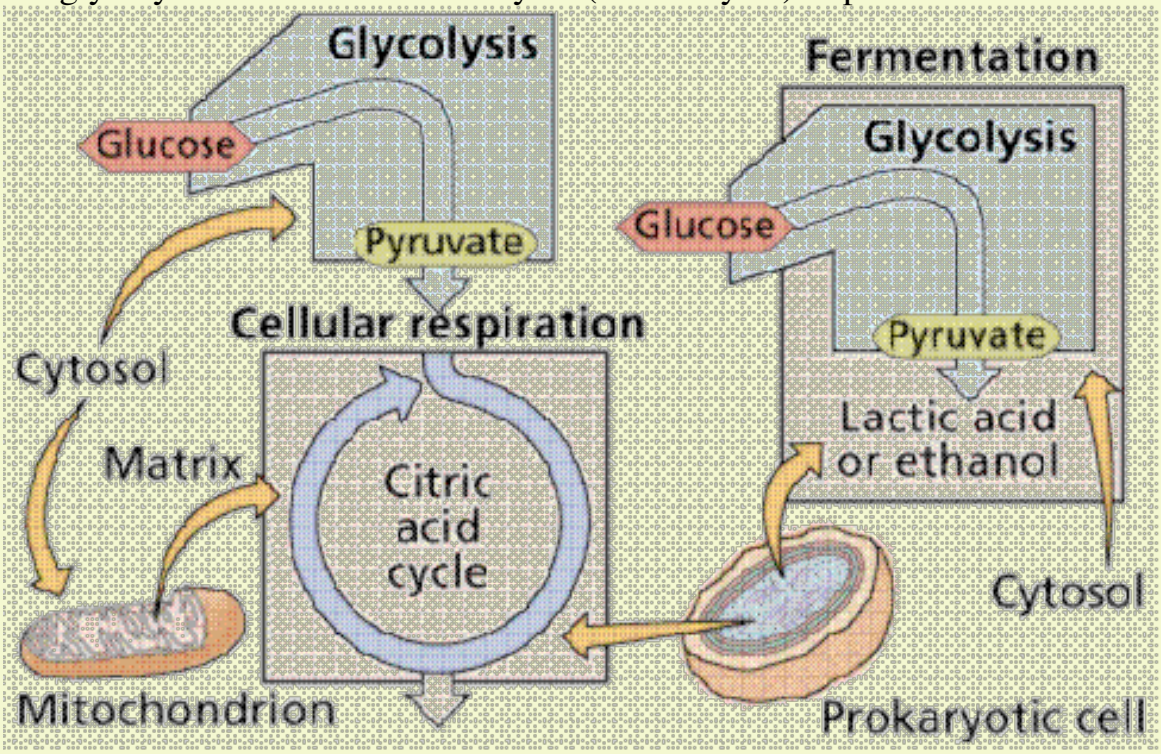
Although this article mainly concerns alcoholism, it equally applies to any addiction.

Contrary to popular opinion many scientists consider alcoholism to be a specific disease in the literal sense of the word. Of course this may not sit well with people who believe that alcoholism is a **mental** disorder, that can be treated by talk therapy or a change in religious beliefs. The faith based treatment programs are well know for its failure rates of about 80 per cent. This does not mean that they could not be of any benefit, for at least it brings people together with a common illness.
I have explained the biochemical nature of alcoholism and why hypoglycemics are particularly attracted to alcohol. This may apply to all other kinds of drug addiction.

It clearly shows that alcoholics and for that matter many other form of addicted people, have problems metabolizing glucose into biological energy, called ATP. Biological energy is derived form glucose from sugar sources in our food, and converted to energy by a biochemical pathway called glycolysis. Without that energy the brain is starved of energy and cannot produce the feel good neurotransmitters such as serotonin.

The following simplified illustration shows how glucose is converted to biological energy via glycolysis and the citric acid cycle (Kerbs Cycle) to produce ATP.




Source: http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookGlyc.html

Please notice that alcohol (ethanol) is produced from pyruvate, the end-product of glycolysis, and that people addicted to alcohol are likely to have problems converting glucose in the 10 step biochemical pathway to pyruvate. Alcohol is rapidly converted to ATP.

The fundamental question is why do alcoholics have problems producing serotonin? A serotonin deficiency has been associated with Endogenous Depression , which is more or less saying that scientists are not aware of the exact mechanism that cause people to be depressed. But at least it emphasizes that the disease is internally generated and has nothing to do with whatever is going on in the environment. Thus it can be asserted that alcoholism is a manifestation of a pre-existing depressive illness. Alcohol being a depressant chemical seems to be an antidote against some of the stress hormones active in depression.

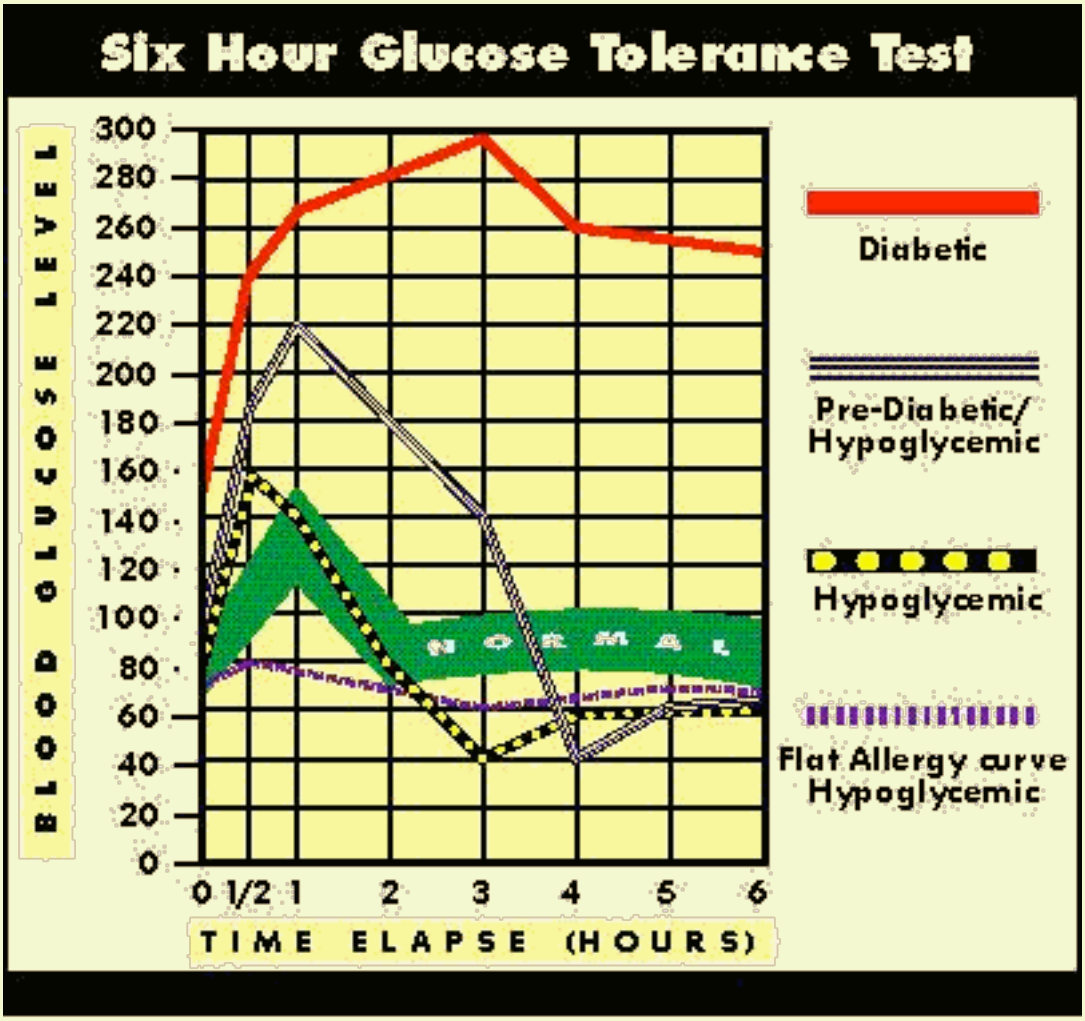
For the brain to produce serotonin it needs an inordinate amount of biological energy to convert tryptophan - found in food - into serotonin. It also needs sufficient amounts of vitamin B6, zinc and magnesium for this conversion to take place. In fact the brain, although only 2% of the body by weight needs about 60-70% of all available glucose to feed the brain with fuel for its biochemical apparatus. An active cell requires more than two million molecules of ATP per second to drive its biochemical machinery. Unlike other organs in the body it has no other sources of energy and it must obtain this from the blood sugar supplies.

Thus the question is why is the brain energy starved in a society that is flooded with sugar in its food sources?

The reality is that excess sugar consumption in society may well have contributed to energy starvation in the brain. Excess sugar consumption causes free radicals to attack other tissues in the body. The body sets up a defence mechanism in terms of Insulin Resistance.

This means that receptors for insulin fail to push glucose across cell membranes for metabolism into energy inside cells. Thus the result is a higher then normal blood sugar levels, called hyperglycemia. This in turn will trigger the pancreas to secrete more insulin resulting in hyperinsulinism. This then will cause a steep descent in blood sugar levels called hypoglycemia.

Here is an illustration showing what happens when receptors for insulin fail to respond to insulin. It can cause abnormal fluctuations in blood sugar levels.




Source: http://www.healthrecovery.com/alcoholism_hypoglycemia.html

Notice how resistance to insulin initially results in a higher than normal blood sugar concentrations, which is then followed by a drop.

Thus we see that Insulin Resistance can cause wild fluctuations in blood sugar levels. When the brain senses a energy starvation, during a hypoglycemic dip, it will send a hormonal message to the adrenal gland to secrete adrenaline into the system. Adrenaline functions to convert sugar stores in the body such as glycogen into glucose, so as to feed the brain again. But adrenaline is also the fight/flight hormone.

Thus a recovering alcoholic is wrecked with unstable blood sugar levels and wildly fluctuating stress hormones, that will cause anxieties and insomnia, and a return to depression.

In my work with alcoholics - 75% of the prison population have addiction as a comorbid condition of their offences - Dr George Samra found that if you test alcoholics with the four hour Medical Test for Hypoglycemia, most of them are found to be hypoglycemic.

You can also test clients with a paper-and-pencil test called the Nutrition Behavior Inventory Test (NBI). Another useful test is the Hypo Quizz. If you score high you are likely to have a metabolic disorder that is contributing to your depression/anxiety.

Fortunately, Insulin Resistance can be treated without recourse to drugs by going on a Hypoglycemic Diet.

Thus we see that alcoholism could be seen as Nutritional Disorder. The hypoglycemic diet is essential in any treatment for alcoholism.

Withdrawing from alcohol is most likely to cause sugar cravings for reasons explained above. The person can help to alleviate this sugar cravings by taking glycerine as mentioned elsewhere in our web site. Glycerine is a sweet tasting substance, obtainable from any pharmacy. You mix one table spoon of glycerine in a glass of water and add a dash of lemonade (to improve taste). It is not recognized by the pancreas and does not produce excess insulin. It is slowly converted to biological energy in the liver and will stop the sugar cravings. It will also normalize the stress hormones and may help in having a normal sleep.

It may take up to a year for the brain to restore normal receptors for neurotransmitters. This can be sped up by a high protein diet such as the Hypoglycemic Diet, including nutritional supplements as mentioned in the Hypoglycemic Diet. In the meantime the person may still have a few bouts of depression, and this where social support becomes important.

It is only **after** the underlying metabolic disorder has been attended to by nutritional means, that the person can benefit from talk therapy or whatever 'mental' approach.

We also have a self-help PSYCHOTHERAPY specially designed for recovering alcoholics and their families.

***Research References:***


Alcoholics in recovery Anxiety, depression
Alcoholism
Alcoholism and Violence
Depression and Insulin resistance
Drug addiction
Drug Addiction Recovery (Volcow study)
Glycerine
Marijuana, Sex, Violence, Depression

Violence and aggression
Zinc and picolinic acid, tryptophan

See other articles at:
The Serotonin Connection
What is Hypoglycemia?
Testing for Hypoglycemia
Depression: a Disease of Energy Production
Depression is a Nutritional Disorder
Anxiety and The Sympathetic Nervous System
Why Alcoholics Drink.
Is the Hypoglycemic Diet a Cure-all for Mental Illness?

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