I now have a fulfillment of what I have been wanting to do for some time, and that is to operate a self-help information service, hold self-help seminars on magnetic therapy and engage in research in medical magnetics. I supervise some patients undergoing diagnosis and treatment at American Biologics-Mexico in Tijuana, Mexico. American Biologics-Mexico is an excellent research institution where I can reach my research goals.

I have decided it doesn't pay to give credit adjustments to patients. I found that I had credited an excess of $300,000 and then one of these complained to the medical license board because she did not want to pay her bill. I wonder if we are entering a new day in which insurance companies are going to complain to medical license boards because they do not want to pay for a particular service. I also wonder if doctors now are going to be complaining when a patient leaves them and goes to another doctor, who does more than usual and customary in order to help his patients. I have enjoyed the practice of medicine and part of my joy has been because I have sought out those extra ways to help my patients. My allergy work was guided by a board certified allergist. I have worked closely with biochemists for years. The addition of biophysics to my practice has been on a high scientific level. It seems quite evident, however, that a physician can spend a lot of money just because he is different and just because he wants to help his patients who have not been helped by what the average physician provides.

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Biological Balance and Addictions

Editor:

A good salesman knows how to get on to waves of rising enthusiasm. Intuitively, politicians, cult leaders, and scientists use the same process. The quick rewards of joining a rising tide reinforce the conformists' efforts, and thought needn't go much beyond "this must be true, because it works for me."

In the early 1950's, David Reisman discussed the idea of counter-cyclic activity in economics and culture, as an error-balancing technique. One of the simplest ways to evaluate the meaning of a cyclic process is to see what happens if it is damped or opposed, and to compare these results with an alternative amplification or reinforcement. The technique is useful biologically, as well as socially: pharmacologists have used the method for centuries, and theories of medicine are based on either damping or intensifying the wave-like processes.

Withdrawal from an addictive substance involves a physiological swing to a kind of "opposite pole," or nadir to the zenith of the drug's action. As no drug has just one effect, the deformation of physiology remaining when the drug is removed will not be a simple matter of a single "receptor" molecule. Physiology compensates continuously to maintain balanced functioning in the presence of a great variety of drug-like substances in our diet. When the diet is changed suddenly, eliminating alcohol or caffeine or other biologically active substances, our compensatory counter-cyclic adjustment is revealed.

The return to a physiologically balanced state requires many changes, and these occur at different rates. (The physiology involved in any organismic function consists of overlapping layers, each of which can work alone to some exent, and dysadaptation can affect the different layers - e.g., hormonal and neural - in different ways. And within a given regulatory "layer," such as the autonomic nervous system, there are various kinds of adaptive processes, including adjustment of energy charge, rate of "firing," thresholds, synthesis, and growth.)

It is important to think concretely about the processes in "recompensation" or restoration of balance. Some of the processes we should consider in relation to addiction are: tissue energy charge, metabolic detoxication and elimination, permeability and barrier functions, excitation-inhibition, and poorly compensated stress reactions.

Probably the biggest error in our popular culture of addiction is the idea that craving is triggered by the presence of the substance in the body, and that cleansing the substance from the body will stop the craving. This idea has become quite a cult, with ramifications into theories of obesity, allergy, sexual dependency, and violence.

The common element in these widely promoted cultish systems is a distrust of ➤

the organism, a body-rejecting attitude that craving is necessarily bad, leading to a blurring of the difference between need and addiction. Cleansing the offending substance from the body to stop the craving suggests that the clean and pure person is without desires. Opposing this other-worldly doctrine is the fact that desires reflect needs, though seldom in a fully rational way. The fact that something makes you feel better, and that you feel worse when you stop using it, shouldn't be taken as evidence of its "addictiveness," but many people feel that way about thyroid hormone, coffee, vitamins, and even the most ordinary foods.

The fact that a taste of chocolate can provoke a wild lust for more chocolate, or that one cigarette renews the addiction, does not mean that the presence of chocolate or nicotine in the blood creates a craving. Rather, it is that an organism in an unstable state perceives the availability of something which promises to partially restore the desired stability. It is obvious that smoking cigarettes is not a good way to achieve the needed stability but this observation can't be generalized to the craving for potato chips, or coffee, or the multitude of other things that people often crave. There is often an easily discovered reason for cravings, and it is more fruitful to suspect that all cravings have a rational basis than to accept the Calvinist or Buddhist idea that desire itself is bad.

The availability of energy is central to our stable functioning, and the need for energy powerfully modifies our functioning. For example, as hunger increases, the brain's interpretive system changes in a way that causes increasingly unfamiliar things to be considered as possible food. The "spreading excitation" that leads to this extended search probably occurs in relation to needs other than hunger, and could lead to experimentation with drugs and to other activities that give some indirect satisfaction. Obsessive and compulsive patterns can sometimes be resolved by assisting the brain's energy metabolism, for example with a supplement of magnesium and thyroid.

But even hunger itself has such ramifications - protein deficiency, salt deficiency, hypoglycemia, elevated adrenalin and cortisol and growth hormone, for example - that a great variety of things could give partial satisfaction. Alcohol can make a powerful and positive contribution to nutrition by sparing protein, and by modifying nutrition-related hormones. (Although some of this work has been published in the *Journal of the American Medical Association*, the stigma attached to alcohol has prevented its adoption as a most useful drug/nutrient, even in terminal cancer patients, where its promotion of immunity could have great value. The abusive stigmatizing of useful substances is an example of unhealthily exaggerated social cycles.)

Behind alcoholism, it is common to find nutritional and endocrine problems, as well as emotional or situational problems. For example, a man who had been unhappy with his work and had struggled with "alcoholism" for 13 years, gave me the impression of someone lacking the basic hormone precursor, pregnenolone. A few minutes after he took 100 mg. of pregnenolone, his depression and anxiety disappeared. Later, he said "that's the feeling I've been trying to get from alcohol, but it never worked." Pregnenolone, more powerfully than alcohol, lowers cortisol while stabilizing other systems. Its highest concentration in the body occurs in the brain, and its level declines sharply with aging: it very likely makes a large contribution to the adaptiveness and sense of well-being which are characteristic of healthy young individuals. In healthy young people or animals, additional pregnenolone has no detectable effect.

"Agitated depression," which is common in old age, is a common symptom of withdrawal from a variety of addictive substances. I suspect that agitated depression, or anxious depression, is a stress syndrome that makes ordinary adaptation difficult. The inability to cope with everyday problems often precedes experimentation with drugs. Low energy and high anxiety can lead a person to use either stimulants or sedatives, or both. Curing the initial problem should make withdrawal from many substances easier, though most of my experience relating to "addiction" has been with "alcoholism."

In 1979, I was thinking about steroid anesthesia, and decided to test whether the newly discovered "opiate receptors" were involved. Naloxone, the anti-opiate, didn't seem to block progesterone anesthesia, but I was still convinced that there was a connection. I think of progesterone as acting at a deeper or more general level, which could allow synergism between opiates and progesterone, without naloxone's blocking the effect of progesterone.*

By chance, a musician who said he had been using heroin and alcohol for 40 years asked if I could help him sober up for an important job that was to begin in a few days. He said he had been continuously drunk for 6 weeks. He brought a quart of beer with him when he came to the house, and since we were having a holiday dinner, he had a chance to keep drinking wine when his beer was finished. At bedtime, I told him about my inconclusive experiments with progesterone, and described the other effects of the material, including its brain-quieting and anti-toxic, anti-stress effects. He took about 100 mg. then (in vitamin E), and took the rest of the bottle to bed with him. Since he had serious cirrhosis of the liver, I explained that he should also take triiodothyronine, since this active form of the thyroid hormone is formed mainly in the liver, and I suggested that his nearly destroyed liver was probably making very little.

He got up around 8 o'clock the next morning, and was smiling and very happy looking. He said he had never had this experience before, of waking up without a hangover after heavy drinking. He had consumed so much of the progesterone that I repeatedly told him to be aware that it could interfere with his sexual function by blocking the effects of testosterone. He stayed alert and sober, and proceeded with his performances. He took about 30 grams of progesterone in vitamin E over the next several months, and said his sexual functioning was perfectly normal. He took 50 mcg. of Cytomel morning and night, and his doctors gave him a few injections of magnesium. His doctors noticed that his liver was getting smaller, and about a year and a half later they said it was normal, without cirrhosis. (Since then other people have noticed similar effects on inflamed and enlarged livers, when taking progesterone with vitamin E and thyroid.)

Both progesterone and triiodothyronine have the function of increasing the tissue's energy supply, and in suitable doses can have a steadying , calming effect. While many people think of thyroid as a kind of stimulant, because it can cure the coma or lethargy of myxedema, this is a very misleading idea. In hypothyroidism, the brain exciting hormones adrenalin, estrogen, and cortisol are usually elevated, and the nerve-muscle relaxant magnesium is low. Normal, deep sleep is rare in a hypothyroid person. The correct dose of triiodothyronine (the active thyroid hormone) with magnesium is a reliable treatment for insomnia, cramps, and anxiety, whether these symptoms are caused by fatigue, or aging, or alcohol withdrawal.

Aging, stress, and heavy consumption of alcohol increase the permeability of the intestine, causing increased absorption of microbial toxins. Laxatives, carrot fiber (not carrot juice), activated charcoal, and a small amount of sodium thiosulfate decrease the formation and absorption of toxins, increasing the organism's adaptive capacity. Belladonna can improve the bowel's function if there are spasms during drug withdrawal.

Camphor, adamantanamine (amantadine, Symmetrel), and "local" anesthetics taken systemically, can help in withdrawal from stimulants. The conventional (200 mg.) dose of camphor and adamantanamine shouldn't be exceeded. (The hormones thyroid, progesterone and pregnenolone alone are sometimes enough.)

Smoking is probably the hardest addiction to break, but careful use of nicotine gum with belladonna (to block some of the circulatory effects of nicotine) can allow a person to avoid the worst toxins of the smoke while overcoming the behavioral habit of handling cigarettes, without having to simultaneously modify the chemical addiction. Caffeine[1] and vitamin A are very protective against cancers, including those induced by smoke. Progesterone and pregnenolone both have anti-toxic (or "catatoxic") effects, though their effects on nicotine craving are slight.

Our society's mystique about drugs makes it hard for people to rely on their own judgment and experience. If they want to try to feel better, aspirin, coffee, tobacco and alcohol are normally the only drugs they have to experiment with. Too many physicians think of "euphoria" as an undesirable side-effect of certain drugs, and are likely either to recommend stoicism, or to mechanically prescribe one of the standard mood altering drugs. Ideally, a physician should view unhappiness and the feeling that life is getting too hard to handle, as a biological problem to be explored in cooperation with the patient. If circumstances are responsible, and can be changed, the biology will take care of itself.

The institutions and cults that have grown up around "treating addiction" are not so different from the cults and institutions (including the pharmaceutical industry) that surround the use of drugs. Rationality and concern for the full range of real needs of people are likely to be ignored when stereotypes and ideologies can be used so profitably.

Dealing with addictions as having (directly or indirectly) to do with real needs can help to remove some of the unnecessary guilt and anxiety associated with addiction. This makes it easier to find out what is really needed to move toward a stable and balanced physiological state. As simple as it is to recognize addiction as a process of biological adaptation, there are many tricks for evaluating and facilitating the process, that can be discussed in more detail later.

Painters and musicians have sometimes said that they use alcohol or other drugs to help them find their "own way." Moving against the tide of the culture is an adaptive effort, and they find some neurological support in drugs. They are right in struggling against the current of imbecile conformity to find some creative truth, but there are better ways to sustain our energy and adaptive capacity. In some cases, good food and social fairness are enough to enliven people so that drugs are not attractive, and in other cases a more specific biochemical/energetic approach is needed.

Notes:

*The systems which respond to valium and atropine are the places that I would want to look for clues to progesterone's effects on addiction.

More Letters

Reference

1. Rothwell, K., "Dose-related inhibition of chemical carcinogenesis in mouse skin by caffeine," *Nature* 252, 69, 1974.

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