Pregnenolone - A Fruit Of Cholesterol

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The following information comes from interviews with Dr. Ray Peat, who has done pioneering research on the anti-aging steroids, pregnenolone, progesterone and DHEA (Dehydroepiandrosterone). References are provided when available, but in many cases, I could only describe the group of researchers who did the experiment. My purpose for presenting this information is not to start a riot but to illustrate why I think it's dangerous to artificially inhibit cholesterol formation in your body with drugs and synthetic foods.

Dr. Peat accidentally discovered the effects of pregnenolone when he took some vitamin E containing a residue of pregnenolone that was left over from an experiment in solubility. Peat had been suffering from a variety of complaints, including "inflammation of the arteries, dental abscesses, asthma, migraines, and colitis." When he took the vitamin E containing some pregnenolone, he immediately felt better, but got sick again when he stopped. Suddenly remembering the presence of pregnenolone in the vitamin E, he crawled out of his sick bed, took a pinch of pure pregnenolone and felt immediately better. All of his symptoms gradually disappeared and in ten weeks, his appearance changed. Many aging characteristics, such as sagging skin, "chicken neck," bags under the eyes, etc. receded. These changes were dramatically evidenced in a passport photo, taken one year before pregnenolone and 10 weeks after pregnenolone therapy was initiated. When I saw these startling photos, I fell off my chair, dashed to the phone and called Dr. Peat. The results of many interviews are summarized below.

Pregnenolone is a steroid precursor (starting material). It is made in the body from the bad-rap guy, LDL cholesterol. Naturally, to get pregnenolone, we need adequate amounts of LDL cholesterol plus other nutrients, including vitamin A, thyroid hormone and enzymes. If any of these are inadequate, you will have a pregnenolone deficiency. In plants pregnenolone can be obtained from the wild yam, Dioscorea (also called Calbeza de negro), not to be confused with yams found in super markets, and from soybeans, but, wild yam must be converted into pregnenolone in a pharmaceutical lab.

In a healthy person, the conversion of cholesterol to pregnenolone occurs inside the mitochondria, nicknamed the lungs of the cell because of their role in cell respiration. Once produced, pregnenolone leaves the mitochondria. Both <u>natural</u> progesterone and pregnenolone stimulate their own synthesis so that if you take them, the body's ability to synthesize them is not suppressed. Sometimes short-term therapy restores the body's ability to produce adequate amounts, although Peat says that this is not as clearly established with pregnenolone as in the case of progesterone. On the other hand, <u>synthetic</u> progesterone has an inhibiting effect on in-vivo synthesis plus many other toxic side effects not observed with natural progesterone. In the cytoplasm, enzymes convert pregnenolone into either progesterone or DHEA, depending on the tissue and the need.

Peat calls pregnenolone a brain steroid since the brain contains higher concentrations of it than other organs or the blood. Because the brain concentration of pregnenolone decreases from its peak value at around age thirty to 5% of peak value at 90, the need for supplemental pregnenolone may increase as we age. In fact, the older and/or sicker you are, the more likely you are to feel an effect from pregnenolone.

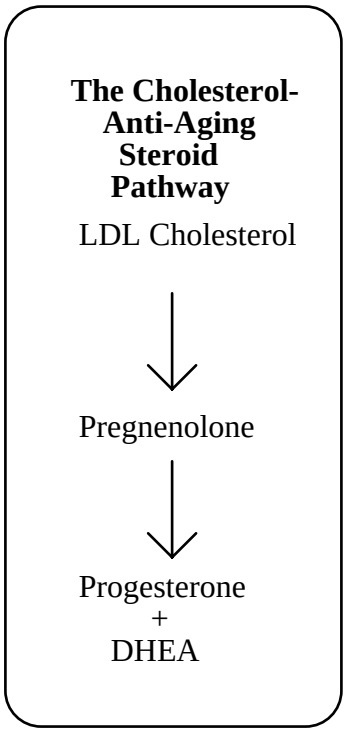
Progesterone and DHEA are the precursors for more specialized steroid hormones, including cortisol, aldosterone, estrogen and testosterone. Taking progesterone will not increase the levels of these

hormones. In fact, progesterone opposes their toxic effects. Peat says, "*The formation of these hormones is tightly regulated, so that taking the precursor of one will correct a deficiency ... but will not create an excess.*" In young men however, taking excess progesterone can decrease testosterone production and lead to decreased libido. So pregnenolone is preferred over progesterone for young males. The inhibitory effect on testosterone has not been observed in older men, especially those who are ill. Because pregnenolone converts to progesterone and DHEA, its effects will parallel those of the latter hormones. Pregnenolone is more beneficial for certain conditions and progesterone for others but in general, there is overlap in their effects. Peat says that, whereas progesterone is strong medicine, just like thyroid or insulin, pregnenolone is an anti-aging food and can be compared to a food supplement such as a vitamin. Because of this, pregnenolone does not act as dramatically in a crisis, such as a seizure, as does progesterone.

Pregnenolone

Here are some of the beneficial effects of pregnenolone support:

Repair of enzymes: Pregnenolone has the ability to repair enzyme activity. For example, a Russian research study found that adding pregnenolone to a mitochondrial suspension increased enzyme activity. Which enzyme? An enzyme in the P450 system, which converts cholesterol into pregnenolone. Other enzymes in the P450 system vital to certain detoxification processes are also stabilized by pregnenolone. "*Pregnenolone doesn't affect the rate of synthesis of these enzymes, but it stabilizes them against the normal proteolytic enzymes, increasing their activity. I believe this stabilizing action is a general feature of these steroids.*" (Peat).



Impaired memory repair: A short article in the Tuesday, March 3, 1992 Sacramento Bee, announced that pregnenolone may help restore impaired memory, according to neurobiologist Eugene Roberts of the City

of Hope Medical Center in Los Angeles, and his colleagues, biologists James F. Flood and John E. Morley, of the St. Louis VA Medical Center. These researchers tested pregnenolone and other steroids on mice. They found that pregnenolone is several hundred times more potent than any memory enhancer that has been tested before. Their report, in the March 1992 Proceedings of the National Academy of Sciences, says that pregnenolone restores normal levels of memory hormones which decline during aging. Roberts noted that pregnenolone was used in the late 1940's to treat rheumatoid arthritis but fell into disuse when cortisone was discovered. But, says Roberts, pregnenolone was never found to have any adverse side effects whereas the toxic effects of cortisone are many and severe.

Protection from cortisone or cortisol toxicity: The classic effects of toxic levels of cortisol include daytime euphoria, insomnia plus hot flashes at night, osteoporosis, brain aging, atrophy of the skin plus other signs of premature aging and adrenal atrophy (shrinking). Two injections of cortisone can destroy the beta cells of the pancreas in dogs, causing diabetes. Peat believes that stress-induced elevation in cortisol/cortisone can cause diabetes in people as well.

Peat reports that pregnenolone can be used to withdraw from cortisol/cortisone therapy over a one-month period without developing "Addison" disease symptoms (from adrenal atrophy), because of its normalizing effects on the adrenal gland. In female patients, progesterone therapy may also be indicated.

Hot Flash Relief: In addition, pregnenolone lowers cortisol, so this should be used by women who have hot flashes, which are produced by excess cortisol.

Relief of anxiety and panic attacks: A deficiency of pregnenolone turns on an anxiety-producing substance (endozepine), which triggers an anxiety and panic attacks. Taking pregnenolone prevents the secretion of endozepine and is a safe substitute for toxic drugs such as Xanax and Valium. A doctor reported to me that after taking three doses of pregnenolone for one day, he was able to eliminate his Xanax, which he used for his panic attacks! The usual dose of pregnenolone is about 100-150 mg daily (about the size of a small pea, or a pinch on the end of a butter knife). However, severely anxious people may need 1/4-teaspoon the first day.

Reduced exophthalmia in Grave's disease patients: In the 1950's, pregnenolone was tested on patients with exophthalmia (bulging eyes) from Grave's disease. It was reported that their eyes quickly receded to a more normal position in their sockets. Peat gave pregnenolone to a desperate woman with seriously bulging eyes. The next day, she telephoned him and said that her eyes were completely normal.

Progesterone

Progesterone opposes ALL of the toxic effects of estrogen and cortisol and has other healing benefits, according to Peat.

Control of seizures: Progesterone will stop all cyclic seizures, related to menses and due to excess estrogen relative to progesterone. Goodman and Gilman have reported this topic. Estrogen lowers the threshold for both chemically and electrically induced seizures. Progesterone will also stop (not cure) other seizures, regardless of the cause.

Case history from Peat's files: A 52-year old lady came to Peat totally disabled following the onset of cyclic seizures at age 35. Although her estrogen level was "normal," it was unopposed by progesterone. Instead of a ten to one ratio of progesterone to estrogen, hers was one to one. Her doctor diagnosed her permanently mentally and physically disabled. She could not travel alone because she forgot where she was. Her fingers looked like sausages from arthritis and she could not bend them. Peat had her dip her

"sausage fingers" into an olive oil solution containing progesterone. In 3-4 days, her progesterone to estrogen ratio became five to one. She walked alone, grinning down the street to Peat's office bending her fingers, which no longer looked like sausages!

Opposes the effects of progesterone deficiency following tubal ligation and vasectomy: In a hormone survey of females who had nervous or emotional problems following tubal ligation and males who had emotional problems and impotence following vasectomy ALL had normal hormone levels except for decreased progesterone. Taking progesterone for only one week cured both females and males. How is this so? According to Peat, tubal ligation (or the IUD) sends a signal to the ovaries to stop making progesterone. Vasectomy sends the same signal to the testicles. Thus, vasectomy imitates the IUD.

DHEA

Thirty years ago, endocrinologists at Johns Hopkins University discovered that the adrenal glands manufacture large amounts of DHEA from pregnenolone starting at birth. DHEA manufacture peaks during individual's mid-20's and thereafter levels off with age. In the Friday, February 12, 1989 San Diego Union, a summary of several interesting reports on DHEA research appeared. For example: Richard D. Bulbrook of London's Imperial Cancer Research Fund reported that DHEA levels were consistently lower than normal in women with breast cancer. Biochemist Terence T. Yen of Eli Lilly reported that a breed of mice genetically prone to obesity lost weight following prolonged use of DHEA and returned to their normally rotund physiques when DHEA therapy was withdrawn. Dr. Schwartz at Temple University's Fels Research Institute in Philadelphia found not only that DHEA prevented breast cancer in genetically predisposed mice, but also they appeared younger and thinner!

Many other researchers have reported an anti-aging, anti-obesity effect of DHEA. For example, in the December 1986 New England Journal of Medicine, researchers at the UC San Diego reported their findings on DHEA research, which suggested that it had "survival" or anti-aging properties. In the early 1970's the San Diego researchers studied DHEA levels in 242 San Diego men aged 50 to 79 and found that the DHEA levels in those who died was only one third that of the survivors.

Peat provided the following information on the effects of DHEA.

Libido: In men who have decreased testosterone production resulting in decreased libido, DHEA, which can convert to testosterone, boosted libido almost as well as testosterone.

Osteoporosis: Dr. John Lee documented six years of research, which showed the reversal of osteoporosis with progesterone.

DHEA and type-I diabetes: In a study in which rabbits were poisoned with alloxan (which destroys the beta cells of the pancreas), DHEA cured their diabetes. The rabbits in the study developed normal beta cells in the pancreas.

Peat ate some DHEA, not much, only several milligrams daily. He noticed the following:

- A mole fell off! Other patients had the same results.
- Wisdom teeth impacted 20 years prior rotated into position.
- Peat grew 1 1/2 inches at the age of 46. His weight stayed the same but his waist size decreased. In a few weeks, perhaps ten, he lost his middle age appearance because he got taller!
- Topical application of DHEA on his gray hair caused its original color to return!

WARNING ON DHEA: Peat no longer offers DHEA because he believes that, in the wrong hormonal environment, e.g., low progesterone and/or low thyroid hormones, DHEA can convert to estrogen and testosterone. In women with cystic ovaries, DHEA can convert to estrogen. If you do insist on taking DHEA, you should know that at the peak of youth, say age 20-30 years, the body produces 12-15 mg of DHEA daily. So, taking 25-200 mg daily is far greater than the physiological dosage and in fact, can cause problems. In a book on DHEA by Kalimi and Regelson, they report that excess DHEA can cause liver enlargement. Peat reminds us that this is a standard sign of estrogen dominance.

Ebeling and Koivisto in *Lancet, 1994* report that, in some breast cancer cells in a low estrogen milieu, DHEA has an estrogen-like effect, stimulating tumor growth. I witnessed this in a cancer patient taking low doses of natural progesterone along with 200 mg daily of DHEA. When she stopped the DHEA, the tumor started shrinking.

Peat says that 1-2 mg is the maximum dose he would recommend for anyone other than an elderly, sick person. Only in the latter case, would he recommend 12-15 mg daily and even then, not without pregnenolone, progesterone and thyroid support. The most recent bad news about DHEA is that it modifies glial (brain) cells into the type associated with inflammation. Because pregnenolone converts to both progesterone and DHEA, it is much safer. Peat recommends it for everyone past the age of 40 and even younger, if persistent health problems occur. This includes even the juvenile diabetic. Why? Because pregnenolone was shown to rejuvenate the beta cells of the pancreas in diabetic animals. If it works on animals, it's worth a try in humans.

Caution

Do not think that synthetic analogs of any steroid confer the same benefits as the natural substance, or are non-toxic. On the contrary, many dangerous side effects have been reported from synthetic analogs, as discussed elsewhere. If you don't believe me, read the ***Physician's Desk Reference***, or ask people who take synthetic drugs how they feel. Drug companies are reluctant to sell natural substances because they cannot be patented, and therefore are less profitable than their synthetic analogs. When people stop buying synthetic drugs, no one will make them. Then we can get the real stuff - from nature!

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