What Are the Dangers of Soy Lecithin Ingestion?

By Gord Kerr

Soy lecithin is a common ingredient in hundreds of processed foods, including cereals, pasta, breads, soy milk and many meats. Lecithin is also available as a health supplement; proponents claim that it can benefit the heart, brain, liver and athletic performance. However, there are potential dangers of soy lecithin that could outweigh the possible benefits.
Origin

To solve the problem of disposing of the gummy waste residual generated from the soy oil refining process, German companies patented a process of vacuum drying the sludge to make soybean lecithin. Although lecithin originally had many uses, today soy lecithin is used as an emulsifier in foods and infant formulas and also as a health supplement.

Genetic Modification
In 2007, the GMO Compass reported that soy lecithin, like many food products in American supermarkets, contained genetically modified soy. Genetically modified, or GM, foods are biotechnically changed to increase yields and resistance to herbicides and insects. Some health-food advocates and scientists have concerns with the potential long-term impact from eating genetically modified food. For example, a study published in the "Journal of Applied Toxicology" discovered that mice fed GM soybean developed a decrease in pancreatic function. Although the nutrition of the soy was not altered, the study showed that as few as five days of feeding GM food caused pancreatic cellular changes, which were reversed after 30 days of non-GM foods.

**Cancer**

A compound of soy lecithin, phytoestrogen, can produce effects on the body similar to the hormone estrogen. Soy phytoestrogens may promote an increased risk of breast cancer in adult women by altering or decreasing natural estrogen, although the direct link to cancer is inconclusive. One study reported by Cornell University examined 28 women receiving soy supplements for six months. The women were found to have an increased growth of milk ducts in their breasts, which is a leading forerunner of cancer, according to the Program on Breast Cancer and Environmental Risk Factors in New York State. Conclusions suggest that premenopausal women may be at greatest risk, but further research is needed.

**Reproduction**

Soy and soy lecithin contain a compound called fenistein that may have a negative effect on fertility and reproduction. According to a study at Johns Hopkins Medical Institutions, rats that were fed soybeans containing genistein produced offspring
with abnormal reproductive organs, including smaller testes, larger prostate glands and lower testosterone levels. Conclusions suggested that exposure to soy during reproductive development could have long-term detrimental effects in males, ultimately leading to reproductive abnormalities and sexual dysfunction.

Brain Development

Soy lecithin may affect immature brain cells leading to impeded brain development. "Developmental Psychobiology" published the results of a study on brain function in rats fed soy lecithin. Groups were divided into pregnant rats, rats in fetal development and weaned offspring. In the earliest stages, deficits in sensory motor skills, including righting and swimming abilities, were observed in the soy lecithin group. Long-term consumption of soy lecithin produced rats that were inactive physically and mentally with poor reflexes. The study concluded that soy lecithin supplementation in early stages of life may lead to behavioral and cerebral abnormalities.

Dosage

Because lecithin and other dietary supplements do not need FDA approval, there is no defined recommended daily amount. In addition, different brands of supplements may vary in content, purity and strength, which makes safe and effective dosing inconsistent. Talk to your doctor about the amount of lecithin required for your condition. If you are concerned about the amount of lecithin from food you are ingesting, read labels carefully. Lecithin must be listed on labels containing soy in accordance with The Federal Food and Drug Act. However, many processed foods, including fast foods, baked goods and delicatessen and meat products, are not labeled.
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Soy and Hormonal Imbalance

By Delialah Falcon

Soy is derived from the soya bean, a cholesterol-free legume that is high in protein and low in saturated fat. Soy has a high-fiber content and contains an abundance of vitamins and minerals, including calcium, iron, potassium and zinc. Soy is rich in B vitamins and a good source of omega-3 essential fatty acids. It is present in many foods, including meat products and meat substitutes, cereals and baked goods. Although soy is recognized for its health benefits, the isoflavones in soy may disrupt hormones.
Thyroid

Soy is a phytoestrogen that mimics the body's naturally occurring hormone functions. The thyroid gland, which is responsible for the production and storage of hormones that control all of the body's systems, can be disrupted by phytoestrogens. Thyroid hormones regulate heart rate, balance blood pressure, maintain body temperature and maintain the appropriate metabolic rate for converting food to energy. Because soy mimics some hormones, it may interfere with certain thyroid medications. According to Dr. Todd B. Nippoldt of The Mayo Clinic, "Soy has long been thought to interfere with the body's ability to absorb the medication. However, there's no evidence that people who have hypothyroidism should avoid soy completely."

Estrogen

Estrogen, produced in the ovaries, is responsible for the development of female sexual and reproductive organs. It is the estrogen-mimicking plant compounds found in soy that are responsible for soy's health benefits. But these same estrogenic compounds, known as isoflavones, can have a negative effect on female hormones when consumed in large amounts. Laboratory studies show that genistein, a phytoestrogen found in soy, may lead to a decline in fertility, ovulatory dysfunction and irregular menstrual cycles. According to a study from the National Institute of Environmental Health Sciences, published in the April 31, 2011 issue of "Reproductive Toxicology," studies "clearly demonstrate that environmentally relevant doses of genistein have significant negative impacts on ovarian differentiation, estrous cyclicity, and fertility in the rodent model. Additional studies of reproductive function in human populations exposed to high levels of phytoestrogens during development are warranted."
Pregnancy

Estrogen increases during pregnancy in order to meet the growing demands of both mother and fetus. Estrogen production is maintained by the ovaries and the placenta. During pregnancy, it is the hormone responsible for uterine growth, thickening of the uterine lining, increasing blood volume, milk production and the development of fetal organs. Because the isoflavones in soy mimic estrogen, it is possible that eating large amounts of soy may result in a hormonal imbalance during pregnancy. According to reporter Lindsey Konkel from "Scientific American," "There’s strong evidence from animal studies that the isoflavone genistein alters reproduction and embryonic development."

Menopause

When estrogen levels begin to fall during menopause, the normal balance of hormones becomes disrupted. A myriad of symptoms may accompany the drop in estrogen, including hot flashes, night sweats, loss of memory and irritability. Many women are wary of beginning hormone replacement therapy because of the risks associated with it. Instead, they opt for natural alternatives like soy supplements. According to MayoClinic.com, "Overall, evidence suggests that soy products containing isoflavones may help reduce menopausal symptoms, such as hot flashes. More study is needed to confirm this use."

Is This an Emergency?

If you are experiencing serious medical symptoms, please see the National Library of Medicine’s list of signs you need emergency medical
If you think you may have COVID-19, use the CDC’s Coronavirus Self-Checker before leaving the house.

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