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SPRING 2006

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Bad News for Soy milk Drinkers

by Robert Cohen

Give soy bashers (some) credit.
Give Dr. Mercola (some) credit.
Give Sally Fallon (some) credit.
(Some) soy milks are bad for your digestion
and overall health.

The largest dairy processor in America (Dean Foods) owns America's most popular brand of Soy milk (SILK) and that should not be bad news, but it is. Why? They add a dangerous substance to their SILK soy milk to make it artificially silky and creamy. If you added Vaseline petroleum jelly to your own homemade soy milk and put it into a high speed blender, you might simulate the creaminess and undigestibility quotient of SILK soy milk.

Some people might have no problem drinking a tall glass of commercially prepared soy milk, containing sugar, chocolate powder and carrageenan, a Vaseline-like food additive. The Vaseline-like emulsifier often produces gastric distress, and soy milk drinkers erroneously conclude that they are "allergic" to soy.

Warning: Read labels. Do not consume carrageenan.

Carrageenan is a commonly used food additive that is extracted from red seaweed by using powerful alkali solvents. These solvents would remove the tissues and skin from your hands as readily as would any acid.

Carrageenan is a thickening agent. It's the vegetarian equivalent of casein, the same protein that is isolated from milk and used to thicken foods. Casein is also used to produce paints, and is the glue used to hold a label to a bottle of beer.

Carrageenan is about as wholesome as monosodium glutamate (MSG), which is extracted from rice, and can also be considered natural. Aspartame (Nutra-Poison) is also natural, as it is extracted from decayed plant matter that has been underground for millions of years (oil). So too are many other substances such as carrageenan that can also be classified by FDA and USDA as wholesome and natural food additives. Natural does not mean safe.

Carrageenan coats the insides of one's stomach, like goopy honey or massage oil.

Digestive problems often ensue. Quite often, soy eaters or soy milk drinkers react negatively to carrageenan, and blame their discomforting stomachaches, headaches, and congestion on the soy.

High weight molecular carrageenans are considered to be safe, and were given GRAS status (safe for human consumption) by the FDA. Low weight carrageenans are considered to be dangerous. Even the manufacturer of SILK admits this.

In order to get more information about carrageenan from a scientist, I spoke with one of America's carrageenan experts, Joanne Tobacman, M.D. Dr. Tobacman teaches clinical internal medicine at the University of Iowa College of Medicine. I explained to Dr. Tobacman that I rejected animal studies (we discussed valid concerns about animal research, and why they never produce reliable results for humans). I requested evidence of human trials that might show carrageenan to be a danger for human consumption.

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Dr. Tobacman shared studies with me that demonstrate that digestive enzymes and bacterial action convert high weight carrageenans to dangerous low molecular weight carrageenans and poligeenans in the human gut. These carrageenans have been linked to various human cancers and digestive disorders. Again, I remind you that Tobacman's evidence and conclusions are based upon human tissue samples, not animal studies.

I will cite additional information from four studies:

1) Filament Disassembly and Loss of Mammary Myoepithelial Cells after Exposure to Carrageenan, Joanne Tobacman, *Cancer Research*, 57, 2823-2826, July 15, 1997

2) Carrageenan-Induced Inclusions in Mammary Myoepithelial Cells, Joanne Tobacman, MD, and Katherine Walters, BS, *Cancer Detection and Prevention*, 25(6): 520-526 (2001)

3) Consumption of Carrageenan and Other Water-soluble Polymers Used as Food Additives and Incidence of Mammary Carcinoma, J. K. Tobacman, R. B. Wallace, M. B. Zimmerman, *Medical Hypothesis* (2001), 56(5), 589-598

4) Structural Studies on Carrageenan Derived Oligosaccharides, Guangli Yu, Huashi Guan, Alexandra Ioanviciu, Sulthan Sikkander, Charuwan Thanawiroon, Joanne Tobacman, Toshihiko Toida, Robert Linhardt, *Carbohydrate Research*, 337 (2002), 433-440

In her 1997 publication (1), Tobacman studied the effect of carrageenan on the growth of cultured human mammary epithelial cells over a two week period. She found that extremely low doses of carrageenan disrupted the internal cellular architecture of healthy breast tissue, leading her to conclude:

"The widely used food additive, carrageenan has marked effects on the growth and characteristics of human mammary myoepithelial cells in tissue cultures at concentrations much less than those frequently used in food products to improve solubility."

Tobacman continued her work by exposing low concentrations of carrageenan for short intervals to human breast tissue (2), and observed pathological alterations in cellular membranes and intracellular tissues. Tobacman wrote:

"These changes included prominence of membrane-associated vesicles that coalesced to form unusual petal-like arrays...and development of stacked rigid-appearing inclusions in the lysosomes that arose from the membranes of the petal-like arrays and from smaller, dense spherical bodies that formed clumps."

In reporting a historical perspective, Tobacman revealed that carrageenan has been found to destroy other human cells in tissue cultures, including epithelial intestinal cells and prostate cells. She concludes:

"The association between exposure to low concentrations of carrageenan in tissue culture and destruction of mammary myoepithelial cells may be relevant to the occurrence of invasive mammary malignancy in vivo and provides another approach to investigation of mammary carcinoma."

Tobacman's third paper (3) explored the increased incidence of mammary carcinoma to the increased consumption of stabilizers and additives such as guar gum, pectin, xanthan, and carrageenan. While no relationship between the either above named additives and cancer was observed, carrageenan showed a strong positive.

Although high molecular weight carrageenans are

considered to be safe, Tobacman demonstrates that low molecular weight carrageenans are carcinogenic. She writes:

"Acid hydrolysis (digestion) leads to shortening of the carrageenan polymer to the degraded form, poligeenan. It is not unreasonable to speculate that normal gastric acid... may act upon ingested carrageenan and convert some of which is ingested to the lower molecular weight poligeenan during the actual process

of digestion. Also, some intestinal bacteria possess the enzyme carrageenase that degrades carrageenan."

Tobacman's 2002 publication (4) proves her earlier hypothesis. She writes:

"Mild-acid hydrolytic depolymerization of carrageenan affords poligeenan, a mixture of lower molecular weight polysaccharides and oligosaccharide products."

Tobacman is currently preparing and characterizing low molecular weight poligeenans (carcinogenic) that have been extracted from human digestion modalities. Her yet-to-be published data suggest that carrageenans are dangerous for human consumption.

My advice: Read labels. If there is carrageenan in a product, select an alternative.

The largest selling soy milk in America is SILK. Do I pick on the industry leader? Darned right I do. SILK sets the standard. You deserve to know the truth. Just for the record, if and when SILK changes their formula they will become my hero. In my opinion, SILK tastes better than any of the commercially available soymilks. Unfortunately, consumers sacrifice good health for good taste. That is not a fair trade, particularly for our children. ☹

This is a direct reprint from Robert Cohen's website. Visit www.notmilk.com for more information.

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