Why Is Carrageenan, a Known Carcinogenic Risk in So Many Organic Food Products?

Nut milks (such as almond, coconut, cashew etc.) have become increasingly popular in the general population.

Perceived by some as a healthy alternative to milk products, there are however potential health issues related to the consumption of nut milks which must be taken into consideration, with the most significant being whether carrageenan is used as an emulsifier in the nut milk formulation.

Carrageenan is a seaweed extract that is used as an emulsifier, and although alternatives like guar gum and carob bean gum do not have any of the same risks and side effects, carrageenan has strong lobbies behind it.

Two brands which tend to be readily accessible throughout North America which do not use carrageenan as an emulsification agent include the Silk and Natura brands.

When one reviews the published literature on the negative health issues associated with the consumption of carrageenan, it makes sense to ask our patients if they are consuming nut milks, and if so to educate them about the health issues related to carrageenan (carrageenan is used in many additional food, drink and personal care products).

Here is a brief synopsis of some of the key health issues associated with the consumption of carrageenan:

“The common food additive carrageenan (CGN) predictably induces intestinal inflammation in animal models.” — Bhattacharyya S, et al., 2013

“During the past decade carrageenan has become much used experimentally mainly for its ability to induce an acute inflammation.” — Di Rosa M, 1972

“Carrageenan is readily taken up by macrophages and stored in lysosomes, which subsequently swell and rupture, apparently resulting in cell death.” — Catanzaro PJ, Schwartz HJ, & Graham RC, 1971
This particular abstract from the journal “Cancer Detection Prevention” highlights some of these issues:


**Harmful effects of carrageenan fed to animals.**

Watt J, Marcus R.

Abstract

An increased number of reports have appeared in the literature describing the harmful effects of degraded and undegraded carrageenan supplied to several animal species in their diet or drinking fluid.

The harmful effects include foetal toxicity, teratogenicity, birth defects, pulmonary lesions, hepatomegaly, prolonged storage in Kupffer cells, ulcerative disease of the large bowel with hyperplastic, metaplastic, and polypoidal mucosal changes, enhancement of neoplasia by carcinogens, and, more ominously, colorectal carcinoma.

Degraded carrageenan as a drug or food additive has been restricted in the United States by the FDA, but undegraded carrageenan is still widely used throughout the world as a food additive. Its harmful effects in animals are almost certainly associated with its degradation during passage through the gastrointestinal tract. There is a need for extreme caution in the use of carrageenan or carrageenan-like products as food additives in our diet, and particularly in slimming recipes.

Carrageenan is becoming more ubiquitous these days, even being sold as a personal lubricant. However, independent research has suggested that carrageenan is a dangerous food additive. It’s extracted from seaweed and reportedly causes inflammation of the gut — although it is widely used in our food supply today, independent studies have shown it has no place in our food, but especially not in organic/natural products. It is a cheap emulsifier, and although alternatives like guar gum and carob bean gum do not have any of the same risks and side effects, carrageenan has strong lobbies behind it. The industry lobbied the USDA Organic Standards Board for its approval, so there it is.
Dr. Joanne Tobacman has researched carrageenan extensively, and testified before the Organic Standards Board to argue against its approval for organic products, but was ignored. In just one of her many studies, Tobacman covered the risk of this food additive in her research paper *Review of harmful gastrointestinal effects of carrageenan in animal experiments*, arguing in the abstract:

In this article I review the association between exposure to carrageenan and the occurrence of colonic ulcerations and gastrointestinal neoplasms in animal models. Although the International Agency for Research on Cancer in 1982 identified sufficient evidence for the carcinogenicity of degraded carrageenan in animals to regard it as posing a carcinogenic risk to humans, carrageenan is still used widely as a thickener, stabilizer, and texturizer in a variety of processed foods prevalent in the Western diet. I reviewed experimental data pertaining to carrageenan’s effects with particular attention to the occurrence of ulcerations and neoplasms in association with exposure to carrageenan. In addition, I reviewed from established sources mechanisms for production of degraded carrageenan from undegraded or native carrageenan and data with regard to carrageenan intake. Review of these data demonstrated that exposure to undegraded as well as to degraded carrageenan was associated with the occurrence of intestinal ulcerations and neoplasms. This association may be attributed to contamination of undegraded carrageenan by components of low molecular weight, spontaneous metabolism of undegraded carrageenan by acid hydrolysis under conditions of normal digestion, or the interactions with intestinal bacteria. Although in 1972, the U.S. Food and Drug Administration considered restricting dietary carrageenan to an average molecular weight > 100,000, this resolution did not prevail, and no subsequent regulation has restricted use.

**Because of the acknowledged carcinogenic properties of degraded carrageenan in animal models and the cancer-promoting effects of undegraded carrageenan in experimental models, the widespread use of carrageenan in the Western diet should be reconsidered.**

**Clinical Takeaway:**

Part of our process as Health Care Practitioners is educating patients on how to reduce and minimize exposure to the ever increasing environmental toxin load we are all exposed to, and in our opinion carrageenan should certainly be a part of this list.

Following is a continuation of this article on this carrageenan topic.
Biotics offers a number of formulations targeted towards the GI system:

**A.D.P. (Anti-Dysbiosis Product) 60T**

**Berberine HCl May help activate AMPK**

**Bio-HPF CANADA (H-Pylori Factor) May help activate AMPK**

**BioDoph-7 Plus**

**BioDophilus Caps**

**BioDophilus-FOS**

**Bromelain Plus CLA**

**Caprin 100C**

**FC-Cidal**

**GamOctaPro (Powder)**

**Gastrazyme**

**HCL-Plus**

**IAG**

**Intenzyme Forte (Trypsin & Alpha Chymotrypsin)**

**IPS Canada (Intestinal Permeability Support)**

**L-Glutamine Caps**

**L-Glutamine Powder**

**Lactozyme**
In fact, an investigative reporter from the Chicago Tribune asked the FDA to turn over even one peer-reviewed independent study — that is, one study not funded by carrageenan manufacturers — which showed that this additive was indeed safe and the FDA did not do it. The carrageenan lobbies, not surprisingly, did not provide any either.
Tons of foods at Whole Foods include this ingredient. We have left the following comments at Whole Foods, including contact info, about this dangerous ingredient that shows up in all kinds of “organic” and “natural” foods – ranging from ice cream, to coconut milk and even meat! It’s even used in infant formula. So far, we have not heard back from anyone (but at least they take the comments).

Here’s the text of the handwritten comment:

Carrageenan! After years of seeing this seemingly benign ingredient on labels on mostly organic products, I finally learned it is connected with gastrointestinal issues and even cancer (high doses used to induce cancer in lab animals). Several days of research (via Cornucopia Institute, etc.) have revealed a backstory of corrupt politics with the USDA National Organic Standards Board — which Whole Foods sits on — regarding carrageenan. This is unappreciated.

Bottom line, we shop here and buy organic elsewhere to avoid troublesome ingredients, switched eldest daughter to semi-Paleo diet and things like Coconut milk only to find that carrageenan may be making her GI/IBS disorders worse. Jury’s still out but after a week off carrageenan, she is improving. Please defund carrageenan and offer better/more alternatives. Some public awareness is also in order. Thanks. — Aaron Dykes, phone (XXX)

We call out Whole Foods specifically because they charge a premium for their products while riding on the idea of pure, unadulterated food.

Why is carrageenan so widely used in foods — and especially in organic and “natural” foods that people pay more for in order to avoid unhealthy ingredients — despite the known risks from decades of scientific studies?

The Cornucopia Institute addressed the apparent corruption behind this issue, reporting that:

For the past two decades, food industry executives and lobbyists have managed to convince enough members of the National Organic Standards Board (NOSB)—the 15-member citizen panel of organic stakeholders that determines which non-organic ingredients can be used in organic foods—to give carrageenan its stamp of approval. Their tactics have become increasingly more manipulative and ethically questionable as it becomes clearer that scientific evidence is not on their side.

The NOSB first approved carrageenan in the mid-1990s. As required by law, the USDA had hired three “independent” contractors to perform a thorough scientific and technical review of the additive.

Their job was to provide an independent review, including any concerns about the additive’s effects on human health or the environment. In their official reports to the NOSB, the three contractors assured the NOSB that no effects on human health had been identified. [Editor’s
Note: the full Cornucopia Institute report describes the conflicts of interest held by these “independent” contractors.

Carrageenan came up for periodic review at the May, 2012 meeting with the NOSB debating if it should be “relisted” on the National List of allowed synthetics and non-organics. Industry lobbyists presented misinformation about carrageenan’s safety and questioned the credibility of independent research commissioned by the National Institutes of Health.

One of the NOSB members took an active role in assisting the carrageenan manufacturers. At one point, she read lengthy excerpts from a document written by the carrageenan manufacturers’ trade lobby group, Marinalg, defending the safety of carrageenan. But before reading these lengthy excerpts, the Board member misidentified the excerpts as “being from JECFA, a United Nations/FAO body” when in fact they were written by the industry’s lobby group. Pretty infuriating, right? How can research from a biased lobby group be mistaken for a United Nations/FAO study?

The NOSB voted, by a slim one-vote margin, to re-approve the use of carrageenan in organic foods for another five-year period.

The Cornucopia Institute has been the leading advocate on the carrageenan issue, which I think is particularly important given the widespread prevalence of digestive disorders ranging from Irritable Bowel Syndrome to Crohn’s Disease, Celiac Disease, gluten intolerance, leaky gut, colitis, and more, as well as a dramatic increase in food allergies over the past several decades.

The Cornucopia Institute has provided this shopping guide as a resource to avoid carrageenan. Meanwhile, they also have a petition that you can send to the USDA to urge to removal of carrageenan from the list of approved organic ingredients.

While the entire food system in this country needs a complete overhaul, and there are countless dangerous ingredients that need to be reigned in lurking on our grocery store shelves, it is important that the organic label actually means something and provides a viable option for consumers to at least attempt to avoid the downright junk that is passed off as food today. The organic label is one of the last bastions of food safety in America.

As the Cornucopia Institute writes: “Organic foods should be a safe haven from harmful ingredients. In fact, the Organic Foods Production Act of 1990, the law governing organic foods, requires that non-agricultural ingredients must be determined safe to human health and not deleterious to the environment before they can be added to organic foods. After all, if organic food isn’t safer than conventional food, what’s the point, right?”

Further reading:

http://www.cornucopia.org/2013/12/carrageenan-get-organic-food-anyway/
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1242073/
http://www.cornucopia.org/tell-the-usda-to-remove-carrageenan-from-organic-foods/