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HC-Carageenan-Jonathan Bechtel, Health Kismet

Submitter Information

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Government Agency Type: Federal

General Comment

“My name is Jonathan Bechtel and I am the CEO of Health Kismet.

Based on my research in the attached document, I believe that carrageenan should be taken off the list of approved ingredients for organic foods. Consumers expect organic foods to be free from questionable and potentially harmful ingredients, and it would be unconscionable for the National Organic Standards Board to re-approve carrageenan based on current scientific research.

See attached file(s)

You can also view my writing on the topic here: http://blog.healthkismet.com/carrageenan-cancer-health-inflammation

Attachments

HC-Carageenan-Jonathan Bechtel, Health Kismet-attachment

Health Kismet Blog

Food, Health, Tidbits

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Carrageenan: A Food Additive That's Not as Safe As You Think

by JonathanBechtel - Saturday, March 17, 2012

http://blog.healthkismet.com/carrageenan-cancer-health-inflammation

If you look towards the back of the ingredients list on many processed foods you'll frequently see an ingredient called *carrageenan*. Like lots of other confusing sounding food-stuffs, most people blithely consume it daily without a scintilla of awareness about what it actually is or whether or not it's good for you.

Overall carrageenan is (mostly) harmless, but it has a variety of troublesome side effects that shouldn't go unnoticed, most notably high correlations to colon cancer, inflammation, and a depressed immune system.

What Is Carrageenan?

Carrageenan is a polysaccharide that's derived from red seaweed. On a molecular level it's actually very similar to plastic and is popular for that reason. It bends easily but snaps back into place, which makes it a useful additive to foods, gels, and foams.

It's long been used to improve the texture of food, and the earliest reported uses of red seaweed to improve a food's characteristics dates back to 600 BC in China. It began to be used commercially in the west starting in the 1930's, and about 80% of the world's red seaweed is harvested in the philippines.

Uses

Carrageenan is cheap, fairly docile, and easy to crank out. So it's used in a lot things. You'll often see it in milk products to improve viscosity, especially plant milks since they don't have any cream. Its others uses include but are not limited to:

- toothpaste

- gummy products
- dairy products/plant milks
- beer
- shoe polish
- shaving cream

And the list goes on. You'll often see carrageenan used in conjunction with agar, guar gum, or xantham gum.

So Is Carrageenan Bad For You?

Carrageenan has always gotten a free pass from the health community. It's frequently used as a vegan alternative to gelatin and recently herbivores have come to its defense because dairy companies have been framing it as a "weird additive" in its milk commercials.

Andy Bellatti recently wrote an article defending carrageenan as an additive, and most health/eco-oriented pundits seem to condone it since it's often used in products they otherwise deem worthy.....most notably plant milks.

However, I think most of these people are suffering from the fallacy of mood affiliation. Carrageenan helps make foods they like more palatable, and therefore they defend carrageenan as well.

I believe this sense of affiliation is incorrect.

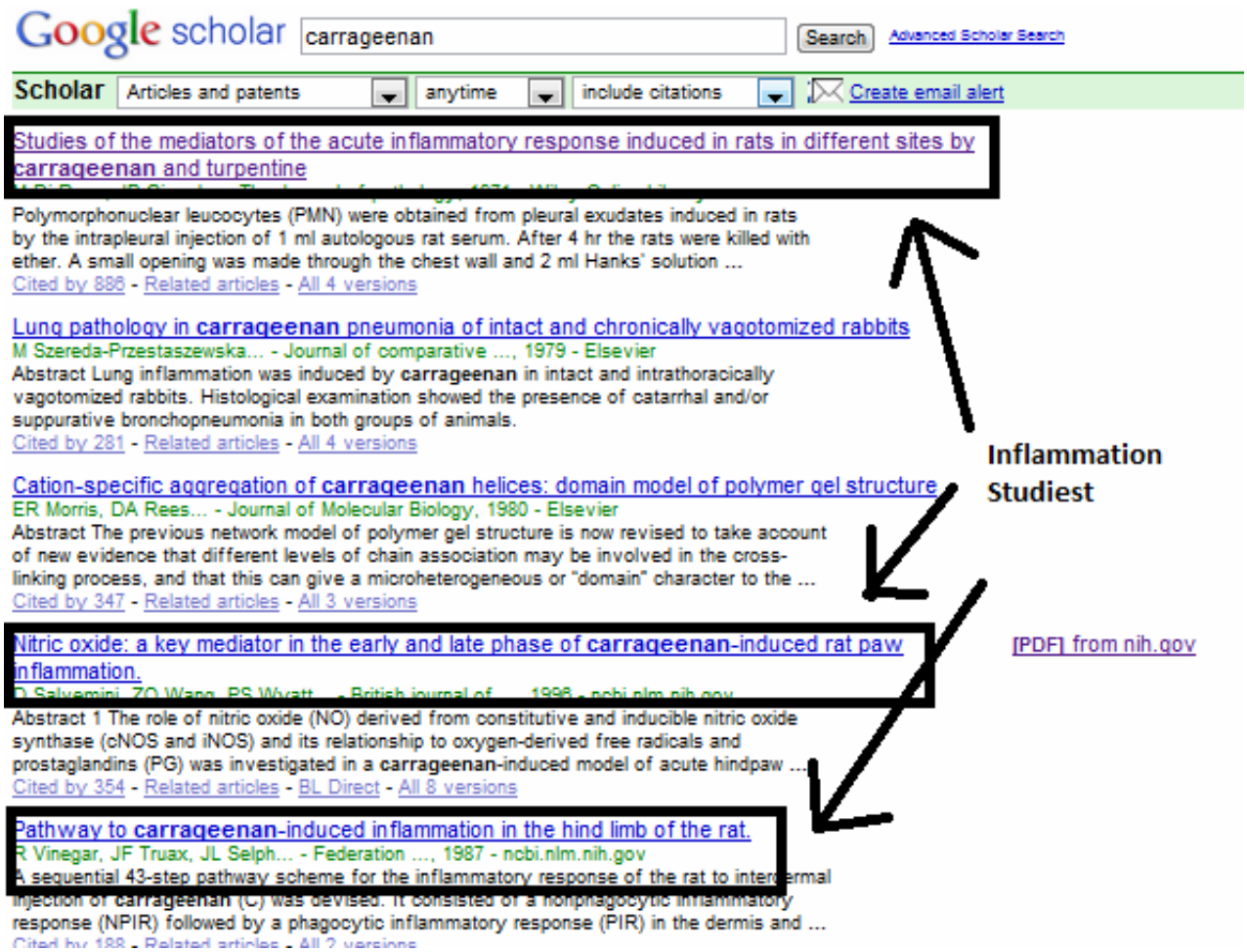
Why, you ask?

Because carrageenan has a long and notable history of significant correlations to different types of cancer and acute-inflammatory responses which are not good for you, to say the least.

Inflammation

Whenever I write a summary article like this one of my first tasks is to type in the subject line into google scholar to see what studies come up.

When I did this for carrageenan I was surprised to see that the most relevant, cited papers had little to do with carrageenan as a food additive, but instead focused on its ability to induce acute inflammation in rats. Here's the page I saw:



After digging a little deeper into the literature I was surprised to find that by far the most notable aspect of carrageenan in medical research is its clockwork like ability to induce oedema and other inflammatory responses in rats. They've been doing it in labs for more than 40 years.

Carrageenan ingested in large amounts promotes inflation in two ways: it depresses the activity of macrophages (big immune cells that act like garbage collectors) and induces the creation of histamine, Cox-2 and prostaglandins, all inflammation inducing compounds.

Cancer

Regular ingestion of carrageenan also has a high correlation to different sorts of gastrointestinal cancers in rats. Most of the research done on the carrageenan/cancer relationship has been done in southeast Asia, and thus is not as well publicized as other harmful food additives like MSG.

However, the trail of research on this issue is long, and pretty consistent. Carrageenan (particularly the "degraded" kind) regularly induces carcinogenesis, neoplasia, and intestinal lesions. Ouch!

By far the most impressive research in this issue was carried out by a professor named Kazuo Wakabayashi, who's centered in Japan (I believe).

I won't bore you and write The Unabbreviated Scholarly Review on Carrageenan and Carcinogenesis, but let me point out two relevant studies for you to chew on:

- A clinical study conducted by Wakabayashi found that rodents were fed daily with a 5% carrageenan aqueous solution had a **100% incidence rate of colon metaplasis** after 15 months.
- As far as I know there have been no clinical studies conducted on humans, but they have been performed on mice, rabbits, guinea pigs, and mice and **they all show a connection between carrageenan and colon cancer.**

Food for thought.

So Is Carrageenan Safe?

Throughout most of the world carrageenan has been deemed "generally safe." And in modest quantities it is, just like most other additives you consume in processed food.

However, I'm a bit miffed at the lack of attention its received for its potentially harmful side effects. The health community typically likes to throw stones at any and all preservatives added by the industrial process, and are quick to point out any harmful correlations that have been brought up in medical research. For example, the correlation between MSG and obesity has received a lot of scrutiny.

So I'm not sure why carrageenan gets a free pass. It shouldn't.

Research and References on Carrageenan

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