What If It’s Not the Gluten After All?

(But Can We Talk About Daily Xanthan Gum & Soy Flour Consumption?)

February 24, 2024 By Mike Barr

Hard to believe, but it was way back in 1999 when my newfound (and first & only) acupuncturist, Dr. Frank Lipman, who eventually inspired me to take up the craft, along with Chinese herbal medicine, remarked to me about how more than one of his patients had shared with him how they seemed to be able to eat pasta, bread, pizza while on vacation in Italy but that back here, stateside, it regularly created problems.

Fast forward, omg, 25 years (!!??), and former Yale intern-Harvard resident/attending physician Dr. Dawn Harris Sherling (now at the Charles Schmidt College of Medicine at FAU in Boca where she grew up), a lifelong IBS sufferer, reprises almost that exact conversation in her provocatively titled 2023 book "Eat Everything: How to Ditch Additives and Emulsifiers, Heal Your Body, and Reclaim the Joy of Food."

Let’s get one thing out of the way, though, right off the bat. And I am embarrassed that it took me some 30 years to understand (or even think about, really) this: gluten, per se, does not naturally exist. Only its two constituent proteins, the gliadins and glutenins, do. (Or prolamins and glutelins, if you prefer to go macro and include barley and rye cereal grains.) When people colloquially speak of “gluten,” they are either imprecisely referring to these two proteins (that “cross-link” under mechanical pressure and/or hydration to form, well, glue) OR they are referring to the pastry techniques of same: mechanical pressure/hydration.

So nobody "reacts“ to ”gluten." They react, primarily, to the gliadin proteins. (Very rarely if at all to glutenin proteins. Sometimes to the lectins slash WGA. Even sometimes to the gluteomorphins (aka gliadorphins).) Rather than “gluten-free,” people and products should really probably be talking of gliadins-free.

(Precision in language is everything. They taught me that at (“the”) LSE: mostly Margot Light and Geoffrey Stern.)

But since we are going to back way, way up, this whole “You say gluten, I say gliadin” thing won’t really matter much.

Read just these few paragraphs. You will absolutely die! Maybe this was (or is) even you. Or someone you know.

On the road to Rome, the over-air conditioned tour bus eased its way into the highway rest stop parking lot, pulling up next to the nondescript, yellow stucco building distinguished only by its bright-red roof, our jet-lagged group trudged off the bus in a line toward the combination quick-serve restaurant and convenience store. But for the Italian words on the sign, this could have been a rest stop nearly anywhere in the US.

My first real Italian meal was at a place called the Autogrill. The unappetizing name notwithstanding, our tour guides assured us that the food would be good here. We were told to order our pasta dish at one side, pay for it, and present the receipt to the food servers. If we wanted coffee, it would have to be ordered separately at the far side of the establishment. Rest stop pasta was not exactly the culinary experience I was hoping to have in Italy. I took my place in line, envisioning oily noodles covered by a heavily salted, runny sauce, sitting in chafing dishes.

But despite my initial impression, this rest stop in Italy was not at all the same as a rest stop in the US. Within a few minutes I realized there were no chafing dishes, and the only oil I saw was the small amount put into the pan as one cook heated the fresh marinara sauce I had ordered while another dipped the pasta into boiling water. When al dente perfection had been reached, she brought the drained pasta over to the pan and neatly added it to the marinara, deftly turning it to coat every (dangerously gluten-filled) strand with the (perilously acidic) red sauce. Freshly grated cheese was added (oh no!), and I was then handed an honest-to-goodness ceramic dinner plate. Small puffs of steam wafted from the dish, the garlicky aroma making me a little giddy. To think this was what passed for fast food in Italy! I pushed aside my fears and decided that I was going to enjoy my trip—which meant this would be lunch. I couldn't help but eat every bite, only vaguely wondering how much garlic and onion might be in the sauce.

Whatever the consequences of my meal, surely the fresh pasta would be worth the bathroom drama that might later ensue (in any case, the journey to our hotel was expected to be short). And yet the bus ride turned out to be blissfully uneventful, save my children squabbling about something or other. To my surprise, I didn't feel heavy or bloated after my large plate of spaghetti. Actually, I felt great—newly energized for our Italian adventure.

Despite this success, I reminded myself to be cautious. Over the last several years, my bowels had become unpredictable. Like the patient in similar circumstances I had failed years prior, I hadn't been able to figure out any pattern, but my problem was clearly linked to what I was eating. Some days were terrible, with everything I ate struggling to find its way through my intestinal twists and turns, and some days I hardly noticed my gut at all. On my first day in Italy, the gods of intestines must have been smiling down on me—perhaps I would be okay that day but suffer on another. So later that evening, I decided I would try only small bites of my kids' gelato and wait for the inevitable disaster.

Hours passed. Then a whole day. Nothing happened. I bravely decided to move on to my own gelato. Another uneventful day, so then I began requesting the fresh whipped cream on top,

too. And still, my bowels were behaving. Within three days of being in Italy, we had consumed an embarrassingly large amount of gelato. (In our defense, the weather was very warm.) And not only had nothing bad happened, but somehow, without trying, my bowels were back to normal—like when I was a medical resident in my twenties downing pepper and onion pizza. I ecstatically feasted my way through the country, eating everything from creamy cacio e pepe pasta in Rome to giant cuts of steak in Florence to inexplicably light, crusty, and doughy Neapolitan pizza topped with fresh mozzarella di bufala whenever it was offered. I wasn't thinking about my intestines at all. It was a great trip.

Sadly, the day after returning to the US, my bowels were back to misbehaving. What was different in Italy? Had it been the walking? The lowered stress of being on vacation? Maybe I had been eating more roughage. (The fruits and vegetables seemed to have so much more flavor in Italy, and were absolutely delicious!) I was disappointed and tried to walk more, eat more fiber, but to no avail. My IBS was back in full force.

And then, amazingly, we were able to go back to Italy the following summer. I didn't know what would happen, but this time I didn't hesitate to begin my eating adventure. And again, within a day, my bowels had normalized. This trip, however, there was less walking and more stress, eliminating lack of exercise and higher emotional distress as causes of my IBS. It most definitely wasn't in my head, and it wasn't in my legs, either. And then I remembered my patients who had gone on whole-food diets telling me that their IBS had gotten better, and I started to wonder what was in the Italian food that wasn't in my food back home? Or perhaps was it the other way around?

Italians [one could add here, Greeks, Spaniards, Catalans, Basque, French, Portuguese, Lebanese, Tunisians, Egyptians, Corsicans, Sicilians, and on and on—anyone but Americans, Brits, to a somewhat lesser degree, Canadians and apparently Nigerians, Pakistanis, and surprisingly Peruvians and Brazilians] take a great deal of pride in preparing their food, and eating is a source of joy, not discomfort or restriction. Where we visited, chefs had not yet given up on scratch cooking (if something wasn't fresh, it was noted on the menu). They used fresh, in-season ingredients and, more so than Americans, avoided ultra-processed substitutes. Italians also don't suffer from IBS, diabetes, or obesity at the rates Americans do. IBS rates: ~7% Italy vs. 20% US, but France (surprise) is the absolute lowest, at 4.7%, and even in Italy the prevalence in urban areas is twice that of rural areas: ~10% vs. 5%. Could these things possibly be related? Both for my own health and that of my patients, I decided I'd make it my mission to find out.

What I began to realize in Italy, and by paying closer attention to my patients, eventually became an investigation that turned everything I thought I knew about what we should be eating on its head. I discovered that IBS is just the canary in the coal mine of a host of diet-related diseases like fatty liver and diabetes. Although I first attributed my IBS cure to something amorphous in the Italian ether, the truth was that the ingredients I was eating there were whole and simple—more importantly, free of the additives (artificial sweeteners, emulsifiers, and thickeners) that have become ubiquitous in most Americans' diets.

> To be clear, I'm not just talking about the junk food and greasy drive-through fare that many of us picture when we hear the familiar lament about the standard American diet (whimsically abbreviated S.A.D.). As with many of my patients, I thought I was eating healthfully—I shunned fast food, ate salads often and filled my shopping cart with packages promising the contents were sugar-free or plant-based or whole or "natural." And yet I was spending an hour a day on the toilet, and was miserable.
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> So I began reading. Every day I scanned my food packages and found a new ingredient to look up. To my surprise, there was evidence that many of the additives I was eating had significant effects on the microbiome (the bacteria, fungi, archaea, viruses, and protozoa that live in our intestines), which we are learning can have wide-ranging effects not only on our gastrointestinal system, but on how much we weigh, our moods, and even our immune system. The evidence I found wasn't on some fringe website but in highly respected peer-reviewed journals like Nature, Cell, Gut, and Gastroenterology.
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> The mounting evidence is telling us what my patients had been telling me for years, if only I had known how to hear them: some of the highly processed foods we eat are making us sick, and the restrictive diets (e.g., low FODMAP, SCD, inter alia) that doctors tell their patients to try are difficult and only minimally helpful for far too many.
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> I then began to think about how my patients had asked me to tell them what they could eat instead of what they couldn't. And I soon realized that they (and I) could EAT EVERYTHING!!—so long as most of it was real food, unadulterated by gut-roiling additives. If you seem to be struggling with your bowels [including chronic constipation], your blood sugar, [a fatty liver,] your weight, or just not feeling right after you eat, and nothing seems to be helping very much, please consider my (and my patients') experiences slash discoveries. Even if you are just trying to eat healthfully but are tired of conflicting dietary advice that seems to change from year to year.

Among her list of the "Top 24 To Avoid" figure, even though obviously it is a sweetener and not an emulsifier, high fructose corn syrup (guaranteed to give you a fatty liver aka MAFLD), titanium dioxide (it creeps in in unexpected places), carrageenan, xylitol, stevia (but not if you use the actual leaves yourself), sucralose, maltodextrin (also ubiquitous), mannitol, xanthan gum, locust (aka carob) bean gum & guar gum. I'm inclined to disagree with guar gum, but we can come back to that.

More to the point is her "Possible Long-Term Consequences" enumeration of these often glossed-over additives. Here is a table summarizing her research (hyperlinks to come):

Ailment	**Additive**
Fatty liver	High-fructose corn syrup (Regulated in Europe, taxed in Mexico)
Triglyceride (& cholesterol) elevations	High-fructose corn syrup
Insulin resistance /diabetes	High-fructose corn syrup

Ailment	Additive
Colon cancer	High-fructose corn syrup Polysorbate 80, polysorbate 60
Crohn’s disease /ulcerative colitis	Carrageenan (rabbit hole) Maltodextrin
Inflammatory bowel disease (IBD)	Cellulose gum Titanium dioxide, also known as E171 (banned in Europe)
Blood glucose (& cholesterol) elevations	Monoglycerides, diglycerides
Cancer	Titanium dioxide aka E171

Ailment
: Fatty liver

Additive — High-fructose corn syrup
(Regulated in Europe, taxed in Mexico)

Ailment
: Triglyceride (& cholesterol) elevations

Additive — High-fructose corn syrup

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Ailment
: Colon cancer

Additive — High-fructose corn syrup
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Ailment
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Additive — Carrageenan (rabbit hole)
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: Inflammatory bowel disease (IBD)

Additive — Cellulose gum
Titanium dioxide, also known as E171 (banned in Europe)

Ailment
: Blood glucose (& cholesterol) elevations

Additive — Monoglycerides, diglycerides

Ailment
: Cancer

Additive — Titanium dioxide aka E171

Not to complicate matters here, but the #2 (actually, he's #1) of my MD peeps muddies Dr. Sherling's admirably crystal clear waters a bit, noting how the US (and then all the countries to which we exported either the grain or the seeds) adulterated its wheat making it 100x more "antigenic," in immunology-speak. So while it's possible that getting rid of the emulsifiers, preservatives, sweeteners and other crazy ingredients (including, sorry, commercially prepared Stevia and the new alcohol-based sweeteners) endemic in the US food supply might let the gut lining and microbial communities recover enough to bear the onslaught of our Franken-wheat, it might also be that restricting or eliminating US sourced wheat (remember, more than likely, it's not the gluten itself, unless you have an autoimmune condition triggered by immune system reactions to glutenin or gliadin, the two proteins that crosslink under pressure to form gluten) from a healthful diet.

There is more than likely a kind of additive "threshold effect" that differs person to person, influenced on the "plus" side by gut mucus integrity and the balance & abundance of healthful-unhealthful "gut buddies," as Steven Gundry and others have come to refer to them; for example, the Lactobacillus, Bifidobacterium, Akkermansia even Clostridium genera; and then on the other hand, by all the things that stress our "buddies" (fiber-deficient diets, prepackaged foods/chemical additives, prescription & OTC medications, inactivity, stress, alcohol) & degrade the protective mucus lining of the gut (pretty much the same list, with a special emphasis on alcohol, NSAIDs, emulsifiers and chronic stress).

Will paste in the #1 peep (Dr. Robert Lustig) paragraph about this later this weekend. Or look up his book, "Metabolical," and find it yourself (penultimate section, "The Gluten-free Craze," of Chapter 14: "What and How Adults Eat"). His book is one of the rare books of this genre that have been so clearly painstakingly researched, considered, referenced and edited that I know of. Very possibly in a league of only 3 or 4 books I can think of in the past ten to fifteen years. Quite possibly in a league all its own. Yes, it's that good!

Here's his take in a nutshell: he concludes that it is not, at least for him, the gluten in bread, pasta, pizza and the like, but more likely "any of the seven hundrend different proteins" in this relatively new hexaploid wheat (einkorn and emmer are diploid and tetraploid, respectively, so generally less "reactive" to the human body) that causes inflammatory and/or digestive havoc in the human body. Based on his own self-experimentation (which we all need to do), he has completely given up wheat but happily enjoys barley (i.e., beer) and rye.

While the "final answer," as they say, might be to bid farewell to our Frankenwheat forever, there are at least two ancestral grain bakeries I am aware of in NYC (pretty sure there is another one, Elbow Bread, where Ludlow dead-ends into Canal, but let me get back to you (and she only opens Fri-Sat-Sun): Pain d'Avignon (previously only at Essex Street Market & Dekalb Market, Brooklyn, but now with EIGHT locations here, including Plaza Hotel, Rock Center, and Moxy hotel lobbies in Herald Square, East Village, LES and Chelsea!) and a more recent addition, Heritage Grand Bakery, along the southern border of Bryant Park. (Had a bit of a train station vibe when I was there yesterday, but it was midday, so maybe that was the reason?) If you're not quite ready to give up wheat entirely (and can't yet or don't want to relocate to Italy, France or the Netherlands,

countries that still seem to care about not only ingredients but also preparation), you might check them out. HGB even has a 100% einkorn loaf!

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