

Excerpt from the forthcoming book, *More to Consider in the Battle against Ulcerative Colitis*, by Eugene L. Heyden, RN. © 2018, All Rights Reserved

Chapter 12

The Semi-Vegetarian Diet

We consider the lack of a suitable diet is the biggest issue faced in current treatment of IBD [so we did something about it]. ~Chiba et al., 2018

Plant-based foods, such as fruit, vegetables, and whole grains, which contain significant amounts of bioactive phytochemicals, may provide desirable health benefits beyond basic nutrition to reduce the risk of chronic diseases. ~Liu, 2003

A healthy, plant-based diet includes plant foods in their whole form, especially vegetables, fruits, legumes, seeds, and nuts. It limits animal products and total fat intake. It aims to maximize consumption of nutrient-dense plant foods while minimizing processed foods, oils, and animal foods. In addition, it encourages a large quantity of vegetables (cooked or raw), fruits, beans, peas, lentils, seeds, and nuts and is generally lower in fat.

Thus it is recommended to consume a diet rich in colorful fruits and vegetables for optimized health and wellness, and potential disease prevention. ~Poe, 2017

We met Yuto in *Chapter 10*. The success he achieved in his personal battle against ulcerative colitis was accomplished by forsaking the Western diet and adopting a plant-based diet . . . and it worked! Others, too, have achieved success in their battle against ulcerative colitis by substantially restricting or eliminating animal products and adopting a plant-based diet. There are many reasons why a plant-based diet favors remission in ulcerative colitis. We'll discuss it all in this chapter.

The formal use of a semi-vegetarian diet as a therapy for IBD, both Crohn's and ulcerative colitis, began in Japan in 2003 by a team of

gastroenterologists who learned a lesson or two from history and were willing to step outside the box. Since time travel allows us a unique opportunity to learn how we got from Point A to Point B, let's go back in time to the middle of the last century (Point A) and visit Japan to see what we can learn about the role diet plays in the initiation and perpetuation of ulcerative colitis.

It's the early 1950s. The War is over. Westernization is on the horizon but has not yet taken hold to any great extent. The Japanese people are, for the most part, eating a very simple plant-based diet with not a Twinkie in sight. IBD is surprisingly rare. But this would all change. As of 2014, some sixty years later, Japan has at least 140,000 individuals with ulcerative colitis—a **100-fold increase** in the incidence of this disease compared to the 1950s (Kanaia et al., 2014). Why? And what is this thing called Westernization?

Westernization is, of course, changes in fashion and the availability of silly TV shows, but it is something else. It is also dietary changes. Dietary Westernization in Japan meant that the dietary practices of the past would be replaced by modern, Western-style dietary practices, practices that include increased meat consumption, increased consumption of saturated and polyunsaturated fat, as well as a dramatic decrease in the consumption of soluble fibers. This profound change in diet was and is the perfect storm, allowing modern, Western diseases to gain a serious foothold, like IBD for example. So, what should be appreciated here is this: **The Western Diet is The Perfect Storm Diet.**

Westernization in Japan started well before World War II but was not widespread in the population. The story goes something like this:

Until about 150 years ago, Japan was officially sealed off from the outside world. Most Japanese individuals had no contact with Western people or Western dietary habits, and ate traditional Japanese foods. After the end of the Edo era in 1868, the new Japanese government opened the country to Westerners and began diplomatic and cultural contact with many Western countries. Concurrently, the Japanese government promoted a Western lifestyle, including Western diets, housing, clothes, and culture.

However, only a small proportion of Japanese people, known as the favored classes, could afford Western foods, while the vast majority continued to eat frugal Japanese foods for an additional 100 years. A typical Japanese diet at that time was a simple vegetarian meal composed of unthreshed rice mixed with barley, miso soup with root vegetables and/or tofu, small grilled fermented fish, and fermented pickled vegetables. Fermentation was essential to preserve foods in the absence of cooling systems. After the end of World War II in 1945, democracy emerged in Japan, with many people choosing Westernization. Annual reports by the Japanese Health, Labor and Welfare Ministry have shown rapid increased intake of sugar-rich carbonated beverages, fat- and carbohydrate-rich Western snacks (e.g., potato chips), and animal protein and fat, and a concurrent rapid decrease in the intake of dietary fiber. (Kanai et al., 2014, emphasis added)

All this Westernization led to unexpected consequences. An astonishing, **100-fold increase** in the incidence of ulcerative colitis in Japan is a case in point. A simple, plant-based diet offered protection against this evil. Give a population more red meat than it needs, more protein than it needs, more iron than it needs, more sulfur than it needs, more saturated fat than it needs, more omega-6 fatty acids than it needs, more food additives than it needs, and a lot less of dietary fiber than it needs, and what do you get? You get more ulcerative colitis than a population needs. Thank you, Western diet.

Perhaps with a return to a plant-based diet, we can turn back time. This was the conclusion a group of Japanese gastroenterologists reached. They put thought into action and developed a plan, a simple plan. Let's listen in on their thoughts.

Diets rich in animal protein and animal fat cause a decrease in beneficial bacteria in the intestine. . . . we regard IBD as a lifestyle-related disease that is mediated by mainly a westernized diet.

Therefore, we designed a diet that hopefully increases the number of beneficial bacteria. Limited foods are known to increase beneficial bacteria; green tea and unrefined brown rice. However, most prebiotics are extracts from plants. Therefore we thought that a vegetarian diet would be suitable for IBD. Considering that excessive restriction of foods can be less acceptable, a semi vegetarian diet (SVD) has been provided to IBD patients in our hospital since 2003. SVD, which is rich in dietary fiber, is quite opposite to conventional low-residue diets in IBD. (Chiba et al., 2010)

The plan was to return to the simple days and the simple ways, a time when a simple, plant-based diet ruled, and turn it into a simple therapy for IBD. And, initially combined with drug therapy (when needed), the results were impressive indeed. For Crohn's, in a study of 16 patients who followed the plant-based diet, the sustained remission rate was 100% at year one and 92% at year two, (Chiba et al., 2010). For ulcerative colitis, one recent study of 60 patients who followed the plant-based diet reported a relapse rate of only 2%, one-year post initiation of therapy (Chiba et al., 2018). At two years, the relapse rate was at 4%. At five years, the relapse rate was 19%. To be fair, in this study many individuals required standard medications to help maintain remission. But still, *"These relapse rates are far better than those previously reported."* (Chiba et al., 2018)

I am struck by the simplicity of The Semi-Vegetarian Diet, and that something so simple has the power to defeat something so complex. Basically,

The diet was lacto-ovo vegetarian, in which eggs and milk were allowed with small portions of meat offered once every two weeks and fish weekly. (Haskey and Gibson, 2017)

How simple is this? Very simple. And the diet comes with a pyramid—a sure sign this is a diet is legit and should be taken seriously.

You can find the pyramid in Ciba et al., 2010. Since you have no intention of putting down this book any time soon, I'll go ahead and describe it to you now.

At the tip-top portion of the pyramid is meat. You are allowed a limited amount meat, once every 2 weeks. (Yes, you can do it.) The next portion of the pyramid allows a limited portion of fish once a week—easy! The rest of the pyramid is fairly straightforward and chock-full of plants—hence a plant-based diet. The diet allows milk, eggs, and yogurt, in addition to fruits, vegetables, brown rice, legumes (beans), and potatoes. Basically, The Semi-Vegetarian Diet is a *lacto-ovo vegetarian diet*, with a little meat thrown in to satisfy the needs of the carnivore within. Of course, there are other restrictions and there are specific recommendations:

Foods that have been shown to be a risk factor for IBD in or outside Japan including sweets, bread, cheese, margarine, fast foods, carbonated beverages, and juices, were discouraged. Healthy habits were encouraged; no smoking, regular physical activity, moderate to no use of alcohol, regularity of meals, and not eating between meals. (Chiba et al., 2010)

Admittedly, this diet (and lifestyle constraints), seems harsh and so undoable, but it is not that bad—particularly when you consider how harsh ulcerative colitis can be, how unacceptable ulcerative colitis is, and how desperately you are searching for a way out.

Since The Semi-Vegetarian Diet is largely a vegetarian diet, you can get tons of menu ideas from books, magazines, and online, from those who promote vegetarianism or veganism as a way of life. Gather inflammation. Formulate a plan. Make a day-by-day menu so you stay on track. Get approval from your physician. Then, eat yourself out of a jam.

So, in the spirit of The Semi-Vegetarian Diet, here are my simple rules: Follow a lacto-ovo-vegetarian diet, choosing foods easily found in our culture. Occasionally—very occasionally—allow yourself a little meat

(maybe no meat at all—you're lovin' the casseroles!). Limit the use of sweets, bread, cheese, etc. Make healthy lifestyle choices, as previously recommended. Fast foods and convenience foods are to be avoided as much as possible. This diet is very doable. You eat meat . . . rarely. You eat wholesome plant-based foods at every meal. You live a wholesome life. You limit the foods that are known to be a risk factor for ulcerative colitis. How does remission sound? You can do this! If needed, enlist the services of a dietitian to design a diet plan especially for you, constructed around the principles discussed in this and previous chapters.

Before we move on, we should examine the reasons why The Semi-Vegetarian Diet works. It's all rather simple, really.

One of the primary reasons offered to explain the diet is its **abundance of dietary fiber** (Chiba, et al., 2010). Recall, dietary fibers feed good bacteria and suppress the numbers of potentially pathogenic bacteria, thereby alleviating dysbiosis, a persistent driver of intestinal inflammation. Besides all the fiber, there are other reasons for the success of The Semi-Vegetarian Diet.

Being a diet very **low in animal protein**, there is **less toxic heme exposure, less heme driven dysbiosis, less sulfur exposure, less LPS exposure, and less hydrogen peroxide generation** for the intestinal barrier and immune system to cope with. Allow me to repeat this series of quotations from *Chapter 9*. (Thanks!)

Heme, the iron porphyrin pigment, primarily found in red meat, poultry and fish is poorly absorbed in the small intestine.

Approximately 90% of dietary heme transits to the colon, and is exploited by colonic bacteria as a growth factor.

***Dietary heme directly injures colonic surface epithelium by generating cytotoxic and oxidative stress.** (Khalili et al., 2017, emphasis added)*

. . . the **irritating** influence of heme is continuously present in the colon and not just a single “hit,” meaning the **dietary heme can constantly modulate the severity of colitis.**

A diet high in red meat might be a risk factor for inflammatory bowel disease development. (Schepens et al., 2011, emphasis added)

Additionally, The Semi-Vegetarian Diet **reduces exposure to iron.** Recall, iron consumed in excess, has a negative impact on the bowel. And I repeat:

The Western diet is characteristically rich in sources of iron, especially red meat, and UC has historically been more prevalent in Western countries.

*The potentially deleterious effects of a high-iron diet on UC are attributed to the **accumulation of iron in the colonic lumen in high concentrations,** a direct result of the tight regulation of body iron levels and the restriction of dietary iron absorption. (Seril et al., 2006, emphasis added)*

The semi-vegetarian Diet is also a diet **low in pro-inflammatory fats**—the saturated fats and the omega-6 fatty acids that are particularly high in meat and particularly high in harm. Recall,

*Consuming a Western diet, high in fat (**particularly saturated fat**), is enough to induce endotoxemia in healthy subjects. (Knight-Sepulveda et al., 2015, emphasis added)*

Also, a direct correlation of colonic cytokine levels with saturated fatty acids (SFA) was identified in patients with UC. (Statovci et al., 2017)

. . . excessive consumption of omega-6 PUFA increases ulcerative colitis by 30%; whereas consumption of docosahexaenoic

*acid, an omega-3 fatty acid, **reduced the disease burden by 77%**.*
(Brown et al., 2012, emphasis added)

And it is not just the omega-6 fatty acids in meat that leads to the consumption of the omega-6s in excess. Beware of salad dressings. Beware of factory-prepared entrees, even homemade entrees, that typically contain vegetable oils as a major component.

And I could go on and on, but I think I've made my point about the evils of the Western diet and the virtues and advantages of The Semi-Vegetarian Diet. In my view, The Semi-Vegetarian Diet *is* the diet with the best chance for remission in ulcerative colitis. But you can screw things up. (I know you all too well.)

One mistake vegetarians often make is excess consumption of sodium. Fortunately, their high intake of potassium offsets this. But it is still a problem. The best defense against sodium excess is to consume less factory-made foods like canned soup, canned vegetables, frozen entrees, and other prepared foods containing substantial levels of sodium. This is important!

More recently, studies indicated that salt has a crucial role in the development of inflammatory processes and augmentation of autoimmunity. (Abdoli, 2016)

*Not only does high sodium increase the inflammatory function of macrophages and T cells that are activated in response to infection and/or tissue trauma, but **high salt also neutralizes the inherent regulatory mechanisms that have evolved to limit the levels of immune-mediated inflammation and promote resolution of tissue injury.*** (Min and Fairchild, 2015, emphasis added)

Another cause for concern: Many prepared foods contain additives like emulsifiers, microparticles, artificial sweeteners, and aluminum.

Food additives are common in the Western diet, and animal and ex-vivo studies have suggested a detrimental effect of certain

food additives, including polysorbate-80, carboxymethylcellulose, maltodextrin, carrageenan, and microparticles.

Moreover, artificial sweeteners and dietary emulsifiers adversely affect the gut microbiota and promote inflammatory responses. (Yang et al., 2016)

And don't forget about sulfur additives.

A high sulphur diet, either from sulphur amino acids [high in red meat] or sulphated additives, results in the generation of hydrogen sulphide and mucosal damage in the colon.

Red meat, for instance is stated as a food to be avoided on a low sulphur amino acid diet and processed foods contain large amounts of sulphate as a food additive. (Jowett et al., 2004)

Additionally, please limit the food additives known to harm to give The Semi-Vegetarian Diet a greater chance for success.

Finally, better add alcohol to the list of things to avoid while on the diet (and possibly forever).

*Similarly, a high alcohol intake was associated with an increased risk of relapse and many alcoholic drinks contain large amounts of sulphates as additives. A high sulphur diet, either from **sulphur amino acids** or sulphate additives, results in the generation of hydrogen sulphide and mucosal damage in the colon. (Jowell et al., 2004, emphasis added)*

That about it! Time to move on.

There is another diet we can learn a lot from. It may be an acceptable alternative to The Semi-Vegetarian Diet. It is called The Mediterranean Diet. That's coming up, in the next chapter.

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