

FROM THE PRESIDENT'S DESK

THE WAY I SEE HEALTH FOR MANKIND: THE SUGAR & FRUCTOSE CONSPIRACY

It is often said and believed that SUGAR IS A SUGAR & CALORIE IS A CALORIE. That they are all one and the same. Unfortunately, this is far from the truth. Not all sugars are metabolized in the same way and not all types of sugars elicit the same hormonal and satiety response. Similarly, not all calories are burned for energy the same way. Some calories are more fat building than the others.

Let's talk about sugar.

Both Glucose and Fructose are 6 carbon molecules, C₆ H₁₂ O₆. Glucose is a 6 ring member, whereas Fructose has a 5 member ring. They are, however, absorbed and metabolized differently. Glucose uses GLUT2 transporter and Fructose uses GLUT 5 transporter. Glucose is the main fuel for the cells and most of it is used by cells outside the Liver especially the muscles. It elicits Insulin and Leptin response (to suppress appetite) and does not elicit a Ghrelin response that increases appetite. Excess glucose is deposited in the Liver as Glycogen as a storage fuel. The liver has the capacity to store huge amounts of Glycogen without causing Inflammation and Cirrhosis. This explains why Glycogen Storage Disorders do not cause Cirrhosis. A small amount of excess Glucose is converted into the bad cholesterol, VLDL, which is then converted into TGL. BOTH VLDL & TGL ARE ATHEROGENIC. Hence excess Glucose consumption can lead to Cardiovascular Diseases. Say for example, if you consume 120 calories of Glucose, 80% of the calories will be used by extrahepatic cells for energy (but you need to burn it through an active lifestyle) and 20% will be used by the liver and mostly converted into glycogen and some through VLDL into TGL. Fructose, on the other hand, does not elicit Insulin or Leptin response. However, it stimulates Ghrelin an appetite stimulant. It is not used by extrahepatic cells for energy so it only can be metabolized by the liver. A larger portion of this fructose is converted into VLDL and then to TGL. HENCE, IT CAUSES MORE HYPERLIPIDEMIA & IT IS MORE ATHEROGENIC THAN GLUCOSE. IT IS ALSO INFLAMMATORY INCREASING THE RISK OF LIVER CIRRHOSIS AND CARDIOVASCULAR DISEASES. Excess VLDL causes Non-Alcoholic SteatoHepatitis (NASH) and excess TGL is also Atherogenic and leads to excess FAT DEPOSITION AND OBESITY. Now let's take 120 calories of Fructose consumption. All these will go into the Liver and all the above changes will happen. More VLDL, TGL, OBESITY. This is not all. Fructose will also be metabolized into Uric Acid. High Uric Acid not only causes Gouty Arthritis but also suppresses Endothelial Nitric Oxide which interferes with Vasodilation leading to Hypertension, Heart Disease, hypoperfusion of all organs. So now you have Hepatomegaly & NASH (risk of Cirrhosis), Obesity, Insulin Resistance, Hypertension, CVD, Hyperlipidemia. This is the Prefect Storm called METABOLIC SYNDROME!

So what is the confusion? And what have you not been told about this? Conspiracy? In my opinion, it is the perfect conspiracy. The food manufacturers have a lot to lose. The governments have to accept responsibility for the misinformation. Let's simplify what is Glucose and Fructose for the general understanding. Glucose is a plant-derived sugar that can lead to Hyperglycemia, Obesity, Heart Disease, Hypertension, HYPERLIPIDEMIA and Metabolic Syndrome. But Fructose is far more dangerous, but no one seems to be pointing a finger at it. The common form of Fructose that has seeped into the food industry is the HIGH FRUCTOSE CORN SYRUP (HFCS) which is 55% Fructose and 45% Glucose. Sucrose which is the table sugar is 50% Glucose and 50 % Fructose. HFCS is found in almost all fast foods, bread, crackers, sauces etc.

So where do the fats fit in? Are all fats bad? The demonizing of Fats started in the 1970's when a statistician named Ancel Keys did a regression analysis of the incidence of heart disease without computers. This was called the 7 country study which included the USA, England, Wales, Australia Japan and Italy. Of the 7 countries Japan and Italy had the lowest incidence of heart attacks but this was conveniently ignored. The emphasis was on the other 5 countries and Fats were deemed to be the culprits. Unfortunately, the obvious difference was not the fats but the sugar consumption. Japan and Italy had the lowest consumption of sugar. There were many studies that clearly proved that the LIPID - HEART HYPOTHESIS was wrong but governments and policy makers ignored. The pharmaceutical industries pushed forward the lipid theory vehemently. Cholesterol lowering drugs then became a multi-billion dollar industry. LOW-FAT, HIGH CARB DIET was introduced. However, this low-fat diet created a new problem for the food manufacturers! Fat adds taste to food besides giving it a nice texture. An alternative taste enhancer was needed and sugar became the cheap substitute. Many experiments as early as the 18th century showed that sugar is toxic to health but public awareness was lacking till the 1950's. When the sugar consumption was reduced, the food manufacturers were ready with corn syrup, which is about 1000 times cheaper than sugar and also is very cheap. This has crept into most foods that are manufactured including the salty tasting crackers. It is estimated that 80% of the 600,000 manufactured foods in the U.S. has sugar added to them and most of it is the HFCS! Corn syrup has a different metabolism, is more toxic and more inflammatory. In fact, Fructose is metabolized like alcohol in the liver except that there is no Acetaldehyde production. It is now almost 40 years since the supposedly healthy low-fat diet became the government policy and where are we now? We have more Heart Diseases, Obesity, Hypertension, Cancers etc. Such diseases have become epidemic now and the list of the modern diseases is growing. Is any government seriously looking at the Biochemical and Physiological evidence that Glucose and, more importantly, Fructose is the reason for Hyperlipidemia and the associated diseases? If you look at the supposedly healthy food pyramid, you will know that nothing has changed for the better. But you can make the change happen for you and for your loved ones. We should also acknowledge that there are bad fats as well. Trans fats are structurally altered fats and many of the so called Vegetable Oils are also sold after extensive processing including subjecting them to excessive heat. Vegetable oils such as Corn Oil and Sunflower Oil are also rich in Omega 6, a pro-inflammatory oil. Coconut oil is the better choice.

Let's take stock of the facts. Excess Glucose consumption leads to Hyperlipidemia with higher levels of both VLDL & TGL, both ATHEROGENIC. Fructose, also a form of sugar is the most dangerous demon causing much higher levels of VLDL & TGL leading to METABOLIC SYNDROME and CANCERS. Fructose is metabolized differently from Glucose and it stimulates Ghrelin, an appetite stimulating hormone! Fructose is an INFLAMMATORY SUGAR leading to NASH & CIRRHOSIS. Sadly, it is found in most fast food, soft drinks, and sports drinks. And who consumes most of such foods and drinks? IT IS OUR CHILDREN! If you walk into any school and look at the foods and drinks served in the school canteen and the number of obese school children you will agree with me that this the PERFECT STORM& A DELIBERATE CONSPIRACY.It is not an attempt to keep feeding us the wrong foods, the food is altered in so many ways that is has lost almost all resemblance to how it exists in nature. Let's take a look at the food supply.

1. Fructose is added not only to increase the palatability but also to mask the taste of the salt and as a browning agent! Soft drinks have high amounts of salt, 50 grams per can. This is a huge amount, added to create the thirst and the demonizing sugar Fructose to mask it! The browning that you see on the cookies, bread etc is what we call as Glycation, a byproduct of twisted molecules between sugar and protein. This is what is laid on your arterial walls as well!
2. Fiber is non existent in almost all the fast foods (should be aptly named as Fiberless Foods). This is done to extend the shelf life, for faster cooking and for ease of freezing and transportation.
3. Substituting with Trans Fats helps in hardening of the food and for increasing the shelf life.

Just imagine what we and our children are consuming as foods!

IF YOU DON'T FIGHT FOR WHAT YOU HAVE TODAY, YOU WILL HAVE TO FIGHT FOR WHAT YOU HAVE LOST (Swami Vivekananda)

Be Well. Be A Proudly Holistic and Truly Healing physician.

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