

October 31, 2005

Heart to Heart

With Philip S. Chua, M.D.

Coffee Reduces Diabetes Risk

Does coffee drinking reduce the risk for diabetes?

A new study published in the *Annals of Internal Medicine* January 6, 2004 suggested that regular coffee drinking “reduces the risk” for the development of Type II (adult onset) diabetes mellitus.

Which type of coffee?

The research, which was conducted by the Harvard School of Public Health and Brigham and Women’s Hospital, showed that caffeinated or decaffeinated coffee are both beneficial in lowering the risk for the adult onset diabetes, but the decaffeinated brew is somewhat weaker.

Wasn’t coffee supposed to increase the risk?

Yes, older studies have reported that caffeine might, in fact, increase the risk of developing diabetes. However, the new theory is that other beneficial chemicals in coffee are able to offset the damage caused by caffeine.

How about tea?

In a separate report, and not a part of this Harvard study, tea has been found to improve insulin activity up to 15 times. This includes green, black or oolong teas, but not herbal tea (which does not have this beneficial effect). Since the active ingredients do not last long in the body, one should drink a cup every few hours to benefit from it. Also, no milk (not even soy milk) must be added, because this renders the “good chemicals” useless to the body.

How was the study done?

The Harvard research studied about 42,000 healthy men and more than 84,000 healthy women from 1980s through 1998, sending them questionnaires every 2-4 years for 18 years, to assess their intake of both regular and decaffeinated coffee and the development of diabetes. Compared to those who did not drink coffee, men who had more than 6 cups of caffeinated coffee a day lowered the risk of developing Type II diabetes by 50%. Among women, there was a 30% reduction in the risk. "This is good news for coffee drinkers; however, it doesn't mean everyone should run out for a latte," Frank Hu, an associate professor at the Harvard School of Public Health, stated in a release. "We still don't know exactly why coffee is beneficial for diabetes, and more research is clearly needed."

How does coffee do it?

The exact mechanism is still unclear. In another research (Nurses Health Study), it shows that the 2000 women coffee drinkers in its survey had significantly lower (13%-14%) levels of C-peptide hormone, a component of insulin in our body, compared to non-coffee drinkers. Higher level of C-peptide, which indicates the body is unable to use insulin (called insulin resistance) are linked to the increased risk of developing adult-onset diabetes. The good effect was more apparent among obese and overweight women, 22% and 18%, respectively. So, if coffee reduces C-peptide, then the risk is reduced.

Is this hormone working alone?

This is still not fully understood. Both regular and decaffeinated coffees have a lot of antioxidants in them, like chlorogenic acid (the ingredient that gives the "addicting" coffee flavor), phyto-estrogens, and magnesium. These chemicals improve sensitivity to insulin and may play a vital role in lowering adult onset diabetes. Caffeine itself is also known to affect insulin secretion.

How much coffee is needed?

The Harvard study stated 6 or more cups per day. The research on the same subject in Finland (which has the highest per capita coffee consumption in the world), involving 15,000 healthy men and women (ages 35-64), as reported in The Journal of American medical Association, showed that women who consumed 10 or more cups a day had 79% lower risk, and men, about 55%.

How many cups of coffee are safe?

Since the long term effects of coffee (especially caffeinated) on diabetes, cardiovascular diseases and other illnesses are not totally clear, the so called "safe level" is an individual issue. One cup of regular coffee may be too much for one person, who might develop heart beat irregularity, like palpitation, or insomnia,

when taken before bedtime. Three cups a day may not be enough to satisfy another. There is more leeway for consumption of decaffeinated coffee if you plan to follow this study, but even this should be tailored to your tolerance. The final word on this issue is not settled, but the preliminary results as presented above are most encouraging. More long term studies are definitely needed before this becomes a medical dogma.

The main objective of this column is to educate and inspire people live a healthier lifestyle to prevent illnesses and disabilities, and achieve a happier and more productive life. Any diagnosis, recommendation or treatment in our article are general medical information and not intended to be applicable or appropriate for anyone. This column is not a substitute for your physician, who knows your condition well and who is your best ally when it comes to your health.