

No Coffee-Hypertension Link in Women, But Colas Implicated

By ACSH Staff — November 8, 2005

A report in the November 9 issue of the *Journal of the American Medical Association* (JAMA) will likely have both consumers and nutrition researchers scratching their heads in bewilderment. The study set out to examine the possibility that caffeine consumption -- from beverages such as coffee, tea and cola drinks -- increases women's risk of developing hypertension (high blood pressure). Previous reports had suggested such a relationship in men, but the issue had not been examined for women.

The JAMA study examined the reported intakes of caffeine-containing beverages by two large groups (cohorts) of the Nurses Health Study -- which has been ongoing since 1976 (cohort 1) and 1989 (cohort 2). The first group included data from over 60,000 subjects, and of these there were over 19,000 new cases of hypertension reported in up to twelve years of follow-up. The second cohort supplied data from over 100,000 subjects, and they reported over 13,500 new cases of high blood pressure.

Caffeine consumption was divided into five levels, with the lowest intake being the reference category. When the researchers examined the data for a relationship between caffeine consumption and hypertension, they found that as caffeine intake rose, so did the risk of increased blood pressure -- but only to a point. Compared to women who consumed the least caffeine, women who were second and third higher consumers had slightly elevated risks (5-13%) of hypertension. Curiously, however, women in the two groups who consumed the most caffeine had slightly lower risks of hypertension (increases of only 1-11%).

The researchers then examined their data in a different manner -- by examining the amounts of various beverages consumed rather than just the caffeine consumption. In these analyses, the results were more than a little surprising. As caffeinated coffee consumption increased, the risk of hypertension decreased -- to the extent that women who consumed over six cups per day had anywhere from a 9-12% decrease in risk. Conversely, consumption of caffeinated tea by the second cohort of women was associated with a slightly increased risk (11%) -- but only for the second cohort of women.

When the soda data were similarly analyzed by number of glasses or cans of regular beverage consumed, there was an ostensible increased risk of hypertension with increased consumption -- by 44% in the first cohort and by 28% in the second. Consumption of diet colas showed a similar relationship with hypertension -- the risk increased by 16 and 19% in the groups reporting the highest diet soda consumption.

These data seem clear: caffeine isn't a culprit in producing high blood pressure, but for some

reason colas are and tea may be. But these conclusions are not very robust. There were very few cases of hypertension in the groups who drank the most regular or diet colas. For example, in the case of regular colas, the heaviest consumers had only 27 out of the over 19,000 new cases of hypertension in the first cohort, and only 73 out of the over 13,500 new cases in the second cohort. Such a low percentage suggests that the statistical reliability of the results may be questionable. The situation with the diet sodas was similar: only 130 women in the first cohort who drank the most diet colas developed hypertension, and again, only about 450 of those in the second cohort did so.

The researchers speculated that their cola results might be due to effects of the high fructose corn syrup used to sweeten many beverages, but this would certainly not explain the association of either diet sodas (which don't contain corn syrup) or tea with hypertension. It is likely that these results are no more than a statistical fluke -- and should not make anyone change their beverage of choice as a means to prevent high blood pressure.

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