Letters to the Editor

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Letter by Olié et al Regarding Article, "Dietary Flavonoids and Risk of Stroke in Women"

To the Editor:

In the article entitled "Dietary Flavonoids and Risk of Stroke in Women," Cassidy and colleagues[1] reported that flavanone subclass, but not flavonol and total flavonoid intakes, was inversely associated with the risk of stroke in women. Although the authors found a non significant *P* for trend among quintiles of flavanones and did not show a global significance test for the flavanones, their conclusions are based on the comparison of the fifth quintile with the first quintile of flavanones. We think that dietary flavonoid intake in this study was not entirely measured. Only 3 (flavanones, flavones), 4 (flavonols), and 6 (anthocyanins) individual polyphenols were added to obtain the dietary consumption of flavonoid subclasses. The www.phenol-explorer.eu web site identifies 22 (flavanones), 49 (flavones), 34 (flavonols), and 74 (anthocyanins) individual polyphenols for these subclasses.[2] This database was used to obtain subclasses of flavonoid intake in the Supplémentation en Vitamines, Minéraux et Antioxidants (SU.VI.MAX) study, a prospective cohort study in which 6101 men and women aged 35 to 60 years with at least 6 24-hour dietary records during the first 2 years after inclusion were followed up for 13 years.[3] Results of the Cox proportional hazards models adjusted for cardiovascular risk factors and energy intake showed that increasing total flavonoid intake was associated with a reduced risk of stroke (hazard ratio, 0.25; 95% CI, 0.09–0.65; P_{trend}=0.003). More specifically, high intake of dihydroflavonols (P_{trend}=0.03), catechins (P_{trend}=0.04), theaflavins (P_{trend}=0.05), flavonols (P_{trend}=0.02), and proanthocyanidins (P_{trend}=0.05) was inversely associated with the risk of stroke. Nevertheless, flavanone (P_{trend}=0.65), flavone (P_{trend}=0.21), anthocyanin (P_{trend}=0.67), and dihydrochalcone (P_{trend}=0.14) subclasses were not associated with the risk of stroke in our cohort. Our results regarding flavonol subclass are consistent with previous data including results of a recent meta-analysis[4] but contrast with those of the present article.[1] Compared with the study of Cassidy et al, the flavonol intakes were >3.5-fold higher in our study. In addition, the mean daily consumption of total flavonoids estimated in the SU.VI.MAX study was nearly 2-fold higher. Besides, no significant difference in flavanone intake was observed between the 2 studies but, because of the low incidence of stroke in our study, we cannot rule out the possibility that some nonsignificant findings, including those of the flavanone subclass, may be due to a lack of statistical power. However, consistent with our result, the lack of association between flavanones and stroke has been previously reported by Mursu et al.[5]

Our results stress the fact that using a precise estimation of total flavonoid intakes, including individual and seasonal variability and the wide range of flavonoid subclasses, can have a preponderant influence on the study of polyphenol intake as a marker of exposition and a disease.

In light of these new data and results of the article by Cassidy et al, the evidence for implication of flavonoids in the reduced risk of stroke should be modulated according to the subclasses of flavonoid intake. More research is required to define subclasses implicated in a potential reduction of stroke risk and to provide some clear pathophysiological hypothesis for the differential impact of this subclasses. In addition, the study of Cassidy et al emphasizes the growing necessity for harmonization in the food composition table used in different studies to allow real comparison between results.

Disclosures

None.

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