Chocolate Consumption, Cognitive Function, and Nobel Laureates

Chocolate consumption enhances cognitive function, which is a sine qua non for winning the Nobel Prize, and it closely correlates with the number of Nobel laureates in each country. It remains to be determined whether the consumption of chocolate is the underlying mechanism for the observed association with improved cognitive function. This article by Dr. Messerli, from St. Luke's–Roosevelt Hospital and Columbia University, New York, was published on October 10, 2012, at NEJM.org.

The present data are based on country averages, and the specific chocolate intake of individual Nobel laureates of the past and present remains unknown. The cumulative dose of chocolate that is needed to sufficiently increase the odds of being asked to travel to Stockholm is uncertain. This research is evolving, since both the number of Nobel laureates and chocolate consumption are time-dependent variables and change from year to year.

Authors found a close, significant linear correlation ($r=0.791$, $p<0.0001$) between chocolate consumption per capita and the number of Nobel laureates per 10 million persons in a total of 23 countries. When recalculated with the exclusion of Sweden, the correlation coefficient increased to 0.862. Switzerland was the top performer in terms of both the number of Nobel laureates and chocolate consumption. The slope of the regression line allowed the authors to estimate that it would take about 0.4 kg of chocolate per capita per year to increase the number of Nobel laureates in a given country by 1. For the United States, that would amount to 125 million kg per year. The minimally effective chocolate dose seems to hover around 2 kg per year, and the dose–response curve reveals no apparent ceiling on the number of Nobel laureates at the highest chocolate-dose level of 11 kg per year.

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Garlic, drugs, or cocoa for hypertension?

Cocoa is rich in flavanols, which cause blood vessel dilatation and are thought to reduce blood pressure. A recent Cochrane review of four trials that comprised nearly 9000 participants looked at how well antihypertensive drugs prevent cardiovascular events and death in people with mild hypertension, defined as systolic blood pressure of 140-159 mm Hg or diastolic pressure 90-99 mm Hg (or both). All participants were free of cardiovascular disease at baseline. In this review, no effects were seen over four to five years, compared with placebo, for overall mortality (relative risk 0.85, 95% CI 0.63 to 1.15), coronary heart disease (1.12, 0.80 to 1.57), stroke (0.51, 0.24 to 1.08), or total cardiovascular events (0.97, 0.72 to 1.32). One in 10 people stopped taking antihypertensives because of adverse effects, a fivefold increase over placebo. The review did not report effects of drugs on blood pressure, if any.

Another review found two small trials that compared garlic powder with placebo in people with mild hypertension. Garlic might help reduce blood pressure-possibly by about 10 mm Hg for systolic blood pressure and a little less for diastolic blood pressure. However, the confidence intervals were wide, and no data were available on which to assess the potency of garlic to prevent cardiovascular events. Most of the 20 trials (about 850 participants) tested a daily dose of 500-750 mg of flavanols ingested through chocolate or cocoa products. Most participants were healthy and normotensive at baseline, and most trials lasted only about a month. Small reductions in blood pressure were seen with cocoa, compared with placebo: −2.77 (−4.72 to −0.82) mm Hg for systolic pressure and −2.20 (−3.46 to −0.93) mm Hg for diastolic blood pressure. One in 20 people allocated cocoa had adverse effects, compared with one in 100 of those receiving placebo. Gastrointestinal effects and a dislike of the product's taste were the most common problems.

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(Information sourced from Journal Watch)

Accuracy of Florbetapir PET Imaging in Alzheimer Disease

The imaging modality is highly accurate, but its role in diagnosis and its social implications need consideration. Imaging biomarkers have been studied as a means of detecting amyloid-beta (Aβ) pathology in vivo. One such marker, the FDA-approved positron emission tomography (PET) amyloid imaging agent [18F]florbetapir, previously demonstrated correlation with autopsy findings of Aβ plaque in 35 people with baseline cognitive status ranging from normal to severely demented (JW Neurol Feb 22 2011). Now, the same investigators have conducted a manufacturer-sponsored follow-up study with 24 additional cases that came to autopsy, to assess the accuracy of florbetapir PET imaging.

Of the 59 patients, 46 came to autopsy within 12 months after imaging; the remainder did so within 2 years. The primary analysis compared ratings of florbetapir PET images by five physician readers with binary histopathological findings at autopsy (no or few Aβ plaques vs. moderate or frequent plaques). The majority rating by the five readers was 92% sensitive and 100% specific for imaging done within 2 years of autopsy; it was 96% sensitive and 100% specific within 1 year of autopsy. Overall, individual reader accuracy was similar to the majority-rating accuracy, and semiquantitative analyses of PET images were also highly accurate.

Comment: This study offers encouragement to physicians and families who seek a definitive diagnosis of Alzheimer disease (AD) in vivo so that they can make informed decisions about participation in clinical trials and other major life decisions such as planning for family needs. However, implications for insurability, employment, behavioral health, and quality of life need to be carefully considered before proceeding with amyloid imaging, as the results may be perceived as being similar to those of genetic testing in AD and other neurodegenerative diseases. Although florbetapir has been approved by the FDA, many questions remain regarding its role in diagnosis, interpretation of a patient's images by an inexperienced reader, and reimbursement (or lack thereof) by insurance providers.

SOURCE: Journal Watch Neurology
(August 21, 2012)

New Lipid Biomarkers of Little Use in Predicting Cardiovascular Risk

A pooled analysis provides no justification for routinely adding any new tests to current lipid panels. During the past decade, a myriad of new lipid biomarkers have been purported to correlate better than traditional lipid measures with cardiovascular risk. To assess the value of these novel biomarkers for routine use in risk prediction, investigators pooled data from 37 cohorts including more than 165,000 individuals with a median follow-up of 10 years.

The combination of apolipoprotein B (apoB) and apolipoprotein A-I (apoA-I), lipoprotein(a) (Lp[a]), and lipoprotein-associated phospholipase A2 (Lp-PLA2) all performed worse than total cholesterol and HDL at predicting cardiovascular risk, and adding the newer markers to conventional risk factors improved risk prediction only slightly. By the authors' estimate, 13,622 of every 100,000 adults aged 40 or older would be classified at intermediate risk by conventional risk factors alone; the addition of combined apoB and apoA-I, Lp(a), or Lp-PLA2 would reclassify 1.1%, 4.1%, and 2.7%, respectively, to high risk. The estimated numbers requiring screening to prevent one cardiovascular event over 10 years were about 4500 for combined apoB and apoA-I, 800 for Lp(a), and 1000 for Lp-PLA2.

This study, the largest to date, suggests that novel lipid biomarkers add little incremental value to traditional lipid measures for risk prediction - the predictive power of lipoprotein(a), the best of the markers studied, was not good enough to recommend routine testing. Clinicians should reserve these tests for patients in whom conventional risk factors might not fully inform risk assessment or treatment decisions — for example, those with a strong family history of premature cardiovascular disease.

SOURCE: Journal Watch Cardiology
(July 18, 2012)

ACIP Updates Pneumococcal Vaccine Recommendations for High-Risk Adults

The Advisory Committee on Immunization Practices (ACIP) has published updated recommendations for pneumococcal vaccination of high-risk adults in MMWR.

ACIP now recommends routine use of the 13-valent pneumococcal conjugate vaccine (PCV13; Prevnar) in addition to the previously recommended 23-valent pneumococcal polysaccharide vaccine (PPSV23; Pneumovax) for adults aged 19 and older with immunocompromising conditions (such as HIV, cancer, and renal disease), functional or anatomic asplenia, cerebrospinal fluid leaks, or cochlear implants.

Patients who have not previously received either vaccine should be given one dose of PCV13 followed by one dose of PPSV23 after at least 8 weeks. Patients who have previously received PPSV23 vaccine should be given one dose of PCV13 at least 1 year after the last PPSV23 dose.

SOURCE: Physician's First Watch
(October 12, 2012)

Mother's Kiss May Dislodge Objects Stuck in Children's Noses

The "mother's kiss" technique may safely and effectively help dislodge a foreign body from a child's nose, according to a systematic review in the Canadian Medical Association Journal.

Researchers reviewed the results of eight case series or case reports in which the mother's kiss was used in hospitals, specialists' offices, or at home (in at-home case reports, parents were doctors). To perform the mother's kiss, parents place a finger over the nonoccluded nostril and put their mouth completely over the child's mouth. They blow in the child's mouth until they feel resistance — and then give a short puff of air to propel the object out of the nose.

The technique was effective about 60% of the time. Smooth and irregularly shaped objects were equally likely to be expelled. No adverse events were observed. In two studies, use of the technique was associated with lower rates of general anesthesia.

SOURCE: Physician's First Watch
(October 12, 2012)

Incorrect Weight Shifting Is a Frequent Cause of Falls in the Elderly

Improper shifting of weight is the most common cause of falls among elderly residents of long-term care facilities, according to an observational study in the Lancet.

Researchers examined video footage of the common areas of two long-term care facilities to analyze some 200 falls by residents over 3 years. Roughly 40% of all falls were caused by incorrect transfer or shifting of body weight (e.g., leaning too far when walking or standing). The next most frequent causes of falls were tripping or stumbling, loss of support from an external object, being bumped, and collapsing or losing consciousness. The most common activity at the time of the fall was walking forward, followed by standing quietly, sitting down, and beginning walking.

The authors write: "Our findings emphasize the need to target each of these activities in fall risk assessment and prevention strategies."

SOURCE: Physician's First Watch
(October 17, 2012)

Lowering Chloride Levels in IV Fluids Associated with Less Risk for Kidney Injury

Restricting the use of chloride-rich intravenous fluids in critical illness reduces acute kidney injury and the need for renal-replacement therapy, according to a JAMA study.

During a 6-month control period, roughly 750 ICU patients in an Australian hospital received intravenous fluids according to physician preferences; that was followed by a 6-month transition period. During the 6-month intervention, chloride-rich fluids (0.9% saline, 4% succinylated gelatin solution, or 4% albumin solution) were available to another 750 patients only for specified conditions (e.g., hyponatremia, cerebral edema). Standard fluids were replaced by lower-chloride Hartmann solution, Plasma-Lyte 148, or 20% Albumex.

The primary outcome, increase in serum creatinine level in the ICU, was higher during the control than the intervention period. Similarly, the incidence of acute kidney injury and the need for renal-replacement therapy were higher during the control period.

Editorialists call the work "a provocative pilot study" but don't think it justifies changing fluid prescribing patterns yet.

SOURCE: Physician's First Watch
(October 17, 2012)

Aspirin Associated with Lower Risks for Chronic Liver Disease, Hepatocellular Carcinoma

Use of NSAIDs, particularly aspirin, is associated with reduced risks for hepatocellular carcinoma and death from chronic liver disease, according to a study in the Journal of the National Cancer Institute.

As part of the NIH-AARP Diet and Health study, some 300,000 people aged 50 to 71 completed questionnaires about NSAID use. Outcomes - incidence of hepatocellular carcinoma and death from chronic liver disease - were confirmed through registries.

After roughly 10 years' follow-up, aspirin use was associated with a lower relative risk for hepatocellular carcinoma (hazard rate ratio, 0.59) and death from chronic liver disease (0.55). Users of nonaspirin NSAIDS had a reduced risk for chronic liver disease deaths (0.74), but not for incident hepatocellular carcinoma.

The authors speculate that the effect may come from NSAIDs' role in reducing chronic inflammation. Editorialists remind readers that bleeding risks come with NSAID use; they also remind us that alcohol abuse and obesity have emerged as major - and controllable - risk factors for liver disease in high-income countries.

SOURCE: Physician's First Watch
(November 29, 2012)