High Salt Intake Linked to Atherosclerosis Even With Normal BP

A large study from Sweden concludes that a high salt intake is an important risk factor for atherosclerosis, even in the absence of hypertension. The study, including more than 10,000 individuals between the ages of 50 and 64 years from the Swedish Cardiopulmonary bioImage Study, showed a significant link between dietary salt intake and the risk for atherosclerotic lesions in the coronary and carotid arteries, even in participants with normal blood pressure and without known cardiovascular disease.

It has been known for a long time that salt is linked to hypertension, but the role that salt plays in atherosclerosis has not been examined. The analysis included 10,788 adults ages 50 to 64 years, (average age, 58 years; 52% women) who underwent a coronary computed tomography angiography (CCTA) scan. The estimated 24-hour sodium excretion was used to measure sodium intake. CCTA was used to obtain 3D images of the coronary arteries to measure the degree of coronary artery calcium as well as detect stenosis in the coronary arteries. Participants also had an ultrasound of the carotid arteries.

After adjusting for age, sex, and study, the researchers found that rising salt consumption was linked with increasing atherosclerosis in a linear fashion in both the coronary and carotid arteries. Each 1000 mg rise in sodium excretion was associated with a 9% increased occurrence of carotid plaque (odds ratio [OR], 1.09; $P < .001$; confidence interval [CI], 1.06 - 1.12), a higher coronary artery calcium score (OR, 1.16; $P < .001$; CI, 1.12 - 1.19), and a 17% increased occurrence of coronary artery stenosis (OR, 1.17; $P < .001$; CI, 1.13 - 1.20).

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Diabetes Drug Tied to Lower Dementia Risk

New research suggests that treatment with the thiazolidinedione pioglitazone may offer the greatest protection against dementia for older adults with newly diagnosed type 2 diabetes mellitus (T2DM) who have a history of stroke or ischemic heart disease,

A large cohort study from Korea, patients who took pioglitazone were 16% less likely to develop dementia over an average of 10 years than peers who did not take the drug. However, the dementia risk reduction was 54% among those with ischemic heart disease and 43% among those with a history of stroke.

Pioglitazone exposure was defined as a total cumulative daily dose of 90 or more calculated from all dispensations during 4 years after T2DM diagnosis, with outcomes assessed after this period. Over an average of 10 years, 8.3% of pioglitazone users developed dementia, compared with 10.0% of nonusers. There was a statistically significant 16% lower risk for developing all-cause dementia among pioglitazone users than among nonusers (adjusted hazard ratio [aHR], 0.84; 95% CI, 0.75 – 0.95).

A dose-response relationship was evident; pioglitazone users who received the highest cumulative daily dose were at lower risk for dementia (aHR, 0.72; 95% CI, 0.55 – 0.94).

The results were published in *Neurology.*

Scientific Advances and Dietary Measures to Slow Down Aging

Spectacular progress is being made in slowing down aging, with three new molecular indicators of measurable and manageable processes that accelerate or slow down deterioration associated with age, as well as age-related pathologies. These findings are closer than ever to being applied in older adults. Currently, diet is the most accessible form of intervention, but it is appropriate to clarify current myths and realities.

An article published in *Cell* in 2013 summarized for the first time the molecular indicators of aging in mammals. The article had a great impact and served as a knowledge map about aging. Now the authors have updated and extended this knowledge in the same journal.

A barometer of interest in the topic is that approximately 300,000 articles on aging have been published since 2013, which is as many as were published during the previous century. In addition, almost 80 experiments have been conducted with mammals, including humans, that confirm that interventions in the aging process can prevent, delay, and even avoid age-related diseases such as cancer.

The Mediterranean diet has been shown in different studies to be associated with a lower cardiovascular risk (stroke, ischemic heart disease, dyslipidemia) and a lower risk of cognitive impairment, especially due to its vascular component. Eating nuts (eg, almonds, walnuts) is associated with a less dyslipidemia. In addition, a diet low in fatty meats and rich in fruits and vegetables is associated with less prostate, breast, and colon disease. A diet with adequate protein intake is related to better muscle mass at all ages, and a diet rich in calcium products, such as nuts and dairy products, is linked to better bone mass and less osteoporosis and its consequences.

At the moment, there is no study that links any type of diet with greater longevity, although in view of these data, it seems logical that a Mediterranean diet rich in fruits, vegetables, vegetables with proteins of animal origin, preferably fish or white meat, avoiding excess red meat and its calcium component in the form of nuts and dairy products would be associated with better disease-free aging.

Irregular Sleep Tied to Markers of Atherosclerosis

A new report suggests that irregular sleep such as inconsistent sleep duration or sleep timing may increase the risk of developing atherosclerosis among adults older than age 45. In particular, variation in sleep duration of more than 2 hours per night in the same week was tied to higher rates of atherosclerosis.

Poor sleep is linked with several cardiovascular conditions, including heart disease, hypertension, and type 2 diabetes. Authors found that participants who slept varying amounts of hours throughout the week (meaning that one night they slept less, one night they slept more) were more likely to have atherosclerosis than participants who slept about the same amount of time each night. The study was published recently in the *Journal of the American Heart Association.*

Data from 2032 participants in the Multi-Ethnic Study of Atherosclerosis (MESA) Sleep Ancillary Study, which included adults between the ages of 45 and 84 years in six US communities who completed 7-day wrist actigraphy assessment and kept a sleep diary between 2010 and 2013 was examined.

For subclinical markers of cardiovascular disease, participants underwent assessments of coronary artery calcium, carotid plaque presence, carotid intima-media thickness, and ankle-brachial index.

The research team assessed sleep duration, or the total number of minutes of sleep in a night, and sleep timing regularity, which was determined on the basis of the time someone initially fell asleep each night. They adjusted for cardiovascular disease risk factors and sleep characteristics, such as obstructive sleep apnea, sleep duration, and sleep fragmentation.

Those with irregular sleep timing (SD > 90 minutes) were more likely to have a high coronary artery calcium burden (prevalence ratio, 1.39 [95% CI, 1.07 – 1.82]) in comparison with those with more regular sleep timing (SD < 30 minutes).

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Extra Dietary Sodium Restrictions May Not Lead to Better Outcomes

Restricting dietary sodium below recommended levels may not be helpful and was linked to an increase in in-hospital mortality, according to research presented at the last annual meeting of the American College of Cardiology together with the World Congress of Cardiology.

U.S. Dietary Guidelines for Americans recommend a dietary sodium intake of 2.3 g/day or less for most adults. The current meta-analysis of randomized trials showed that, in patients with heart failure, sodium restriction resulted in increased mortality. In the absence of benefit of salt restriction and [given the] increased harm, there should be a reconsideration of such recommendation.

Limiting sodium is still the way to go to help manage heart failure, but the amount of restriction has been up for debate . The study showed that the focus should be on establishing a safe level of sodium consumption instead of overly restricting sodium.

A possible explanation for these results could be activation of downstream antidiuretic and antinatriuretic systems. In addition, sodium improves the taste of food exponentially and its restriction may reduce the overall intake of total calories and required nutrients, which may lead to worse nutritional status.