Q/ Does chocolate have cardiovascular benefits?

EVIDENCE-BASED ANSWER

A/ Yes, eating chocolate reduces blood pressure in the short term (strength of recommendation [SOR]: B, a meta-analysis and individual randomized controlled trials [RCTs]). No studies, however, have evaluated the long-term cardiovascular effects of chocolate.

Evidence summary

A meta-analysis and 3 subsequent single-blinded RCTs showed a short-term decrease in blood pressure with daily consumption of chocolate. The meta-analysis was comprised of 5 randomized controlled parallel-group or crossover studies with a total of 173 adult patients, both normotensive and hypertensive. Patients ate dark chocolate, high-flavanol milk chocolate, white chocolate, or chocolate without flavonol daily for 14 to 15 days. Four studies used 100 to 105 g (approximately 3 oz) of chocolate (480 calories, 500 mg polyphenols, including flavonol), and 1 used 46 g (240 calories, 213 mg flavonol). Investigators didn’t report the percent of cocoa in the chocolate used.

Dark chocolate and high-flavanol milk chocolate significantly reduced both systolic blood pressure (−4.7 mm Hg; 95% confidence interval [CI], −7.6 to −1.8 mm Hg; P=.002) and diastolic pressure (−2.8 mm Hg; 95% CI, −4.8 to −0.8 mm Hg; P=.006). The study using the 46-g dose found no difference in blood pressure. Removing this outlier from the analysis didn’t alter the mean blood pressure changes.

From hypertensive to prehypertensive with help from chocolate

An RCT evaluated 44 adults, 56 to 73 years of age, with untreated upper-range prehypertension or stage 1 hypertension without concomitant risk factors. Subjects consumed either 6.3 g (30 kcal) per day of dark chocolate (50% cocoa) or polyphenol-free (hence flavonol-free) white chocolate for 18 weeks.

Dark chocolate significantly reduced systolic and diastolic blood pressures (systolic: −2.9 ± 1.6 mm Hg; P<.001; diastolic: −1.9 ± 1.0 mm Hg; P<.001) compared with white chocolate. Four patients who ate dark chocolate (18%) were reclassified from "hypertensive“ to "prehypertensive.” None achieved lower-range prehypertension (<130/85) or optimal blood pressure, however. To place this finding in clinical perspective, the authors cite data from the Framingham Heart Study indicating that a 3-mm Hg reduction in systolic blood pressure should reduce the relative risk of stroke mortality by 8%, of mortality from coronary artery disease by 5%, and of all-cause mortality by 4%.

More evidence of benefit of dark chocolate

A crossover RCT evaluated 19 hypertensive patients with glucose intolerance, but not overt diabetes, who ate either 100 g of flavonol-rich dark chocolate (50% cocoa) or 100 g of flavonol-free white chocolate for 15 days. Dark chocolate significantly reduced both 24-hour ambulatory systolic blood pressure...
No studies have specifically evaluated the long-term cardiovascular effects of eating chocolate.

References


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