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Saccharin and aspartame, compared with sucrose, induce greater weight gain in adult Wistar rats, at similar total caloric intake levels.

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Source

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Abstract

It has been suggested that the use of nonnutritive sweeteners (NNSs) can lead to weight gain, but evidence regarding their real effect in body weight and satiety is still inconclusive. Using a rat model, the present study compares the effect of saccharin and aspartame to sucrose in body weight gain and in caloric intake. Twenty-nine male Wistar rats received plain yogurt sweetened with 20% sucrose, 0.3% sodium saccharin or 0.4% aspartame, in addition to chow and water ad libitum, while physical activity was restrained. Measurements of cumulative body weight gain, total caloric intake, caloric intake of chow and caloric intake of sweetened yogurt were performed weekly for 12 weeks. Results showed that addition of either saccharin or aspartame to yogurt resulted in increased weight gain compared to addition of sucrose, however total caloric intake was similar among groups. In conclusion, greater weight gain was promoted by the use of saccharin or aspartame, compared with sucrose, and this weight gain was unrelated to caloric intake. We speculate that a decrease in energy expenditure or increase in fluid retention might be involved.