

Effect of Glucosamine Supplementation on Fasting and Non-Fasting Plasma Glucose and Serum Insulin Concentrations in Healthy Individuals

ABSTRACT

OBJECTIVE

To test the hypothesis that glucose intolerance does not occur when healthy adults consume normal, recommended dosages of glucosamine sulfate.

METHODS

Healthy adults (n = 19) ingested 1,500 mg of glucosamine sulfate or placebo (double blind) each day for 12 weeks. Three-hour oral glucose tolerance tests (OGTT) were performed using 75 g of dextrose. These occurred before the start of supplementation, at 6 weeks, and at the completion of supplementation (12 weeks).

RESULTS

There were no significant differences between fasted levels of serum insulin or blood glucose. Glucosamine sulfate supplementation did not alter serum insulin or plasma glucose during the OGTT. There were no significant differences within or between treatments, ages or gender. Glycated hemoglobin measurements at the three time points showed no significant change over time, within or between treatments, ages or gender. The lack of significant changes may have been due to large standard deviations in the data.

CONCLUSION

The data suggests that glucosamine supplementation, with normal recommended dosages, does not cause glucose intolerance in healthy adults. This cannot be determined conclusively, however, until further studies are conducted using alternative types of testing.