

Long-term differential effects of procyanidins on CCK secretion in young versus 21-month-old female rats under cafeteria diet

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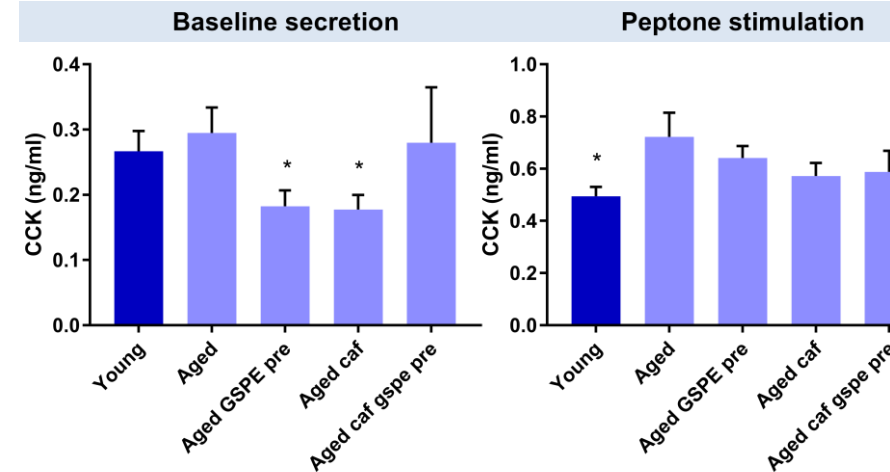
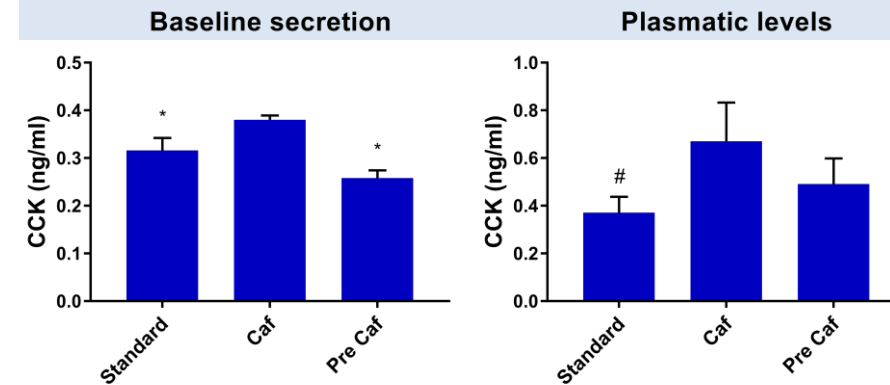
BACKGROUND

The grape seed-derived procyanidin extract (GSPE) have satiating properties in part mediated through the modulation of the anorexigenic enterohormone GLP-1 and the orexigenic enterohormone ghrelin. Furthermore, in female rats fed a cafeteria diet, GSPE treatment induces long-term effects on GLP-1 system. Nevertheless, little is known about GSPE effects on CCK.

METHODS

Using duodenal explants, we previously showed that GSPE acutely inhibits CCK secretion in young rats. To find out whether GSPE has long term effects on CCK secretion, and if it affects differently in aging, we treated 2-month-old (young) and 24-month-old (aged) female rats with 500 mg GSPE/kg body weight for ten-days, followed by a cafeteria diet for 13 weeks to stimulate their food intake. Then, we obtained duodenal explants to measure their ability to secrete CCK under baseline (non-stimulated) conditions and after peptone stimulation (50 mg/ml).

RESULTS



CONCLUSIONS

Basal but not stimulated CCK secretion is sensitive to cafeteria diet. Our results also point out a preventive effect of GSPE towards the effects of a cafeteria diet on CCK both in the young group and in the aged group.

