Impaired postprandial response of active ghrelin and prolonged suppression of hunger sensation in the elderly.

Abstract:
The role of the orexigenic hormone ghrelin is of major interest in the altered appetite regulation of the elderly. Basal and postprandial levels of active and total ghrelin were measured in 15 younger (mean age 35.4 years) and 19 older (80.7 years) participants following a carbohydrate-rich test meal. Our results showed that older participants felt postprandially less hungry and more full. Although basal levels were not significantly different, active and total ghrelin levels declined postprandially only in the younger study participants. Highly significant differences between the two age groups were shown for the changes of the area under the curve for active ghrelin (p = .024). Our study demonstrates for the first time that differences in hunger and satiety sensations in relation to age are paralleled by a substantially different response of acylated and total ghrelin, that is, the absence of a postprandial decline in ghrelin levels.