The cholestyramine-induced decrease of PYY postprandial response is negatively correlated with fat mass in obese women.

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Obese patients have decreased fasting and postprandial levels of peptide YY (PYY), an anorexigenic peptide produced by the L cells of the gastrointestinal mucosa. Fatty nutrients are the most powerful stimulus for PYY release. Cholestyramine, an anion exchanger which adsorbs bile salts, reduces digestion of lipids. The aim of the present study was to investigate the effects of cholestyramine or placebo on PYY secretion in obese women administered a high-fat meal [n = 8; age: 30.9±2.7 years; BMI: 47.3±3.3 kg/m^2]. Postprandial PYY levels in obese women given placebo significantly increased in plasma at 30, 60, 90, and 120 min after meal ingestion. Cholestyramine administration significantly reduced postprandial PYY response at 15, 30, and 60 min. Percent fat mass (FM %) was negatively correlated with the percent increment of plasma PYY concentrations induced by meal administration at 30 min; conversely, there was a positive correlation between FM % and the percent decrement of plasma PYY concentrations induced by cholestyramine at the same time interval. These correlations failed to reach statistical significance when related to BMI. This study implies that in the obese state the altered PYY response to food consumption is a consequence of a dysfunction of L cells, which become less sensitive to the positive feedback effect of lipids.