

Leptin responses to meal in the elderly lean, elderly overweight and elderly diabetic women with intermittent fasting

Associate Professor Zarli Thant¹, Associate Professor ZawLin Thein¹, Associate Professor Ohnmar MyintThein¹, Rector Myat Thandar², Professor Ohnmar Ohnmar¹

¹University Of Medicine 1, Yangon, Myanmar, ²University of Nursing , Yangon, Myanmar

BACKGROUND AND OBJECTIVE:

Evidence suggests that during feeding leptin secretory pattern was linked with insulin mediated glucose uptake in adipose tissue. The objective of the present study was to determine leptin responses to meal in elderly women with various metabolic states after ten-day intermittent fasting.

MATERIALS AND METHODS:

It was a quasi-experimental study with repeated measures. Ten elderly lean women, eight elderly overweight women and nine elderly diabetic women who observed Theravada Buddhism way of ten-day intermittent fasting at Pyae Sone Aye meditation center participated in the present study. Serum leptin level was determined at baseline, 1-hour postprandial, 2-hour postprandial, 4-hour postprandial and 6-hour postprandial after lunch on Day 2 and Day 10. Serum leptin concentration was analyzed by direct Sandwich ELISA method. SPSS (version 22) software was used to analyse the data.

RESULTS:

Serum leptin level significantly rose from 2-hour postprandial uptill 6-hour postprandial ($p < 0.05$) at Day 2 and Day 10 in elderly lean and overweight women. But in elderly diabetic women, a significant rise in serum leptin level was found at 4-hour postprandial and 6-hour postprandial ($p < 0.05$) at Day 2. Percent change in leptin response to meal at 2 hour postprandial was increased in elderly lean (2%), in elderly overweight (8%) and in elderly diabetic women (7%) after intermittent fasting.

CONCLUSION:

The present finding indicates that insulin mediated leptin response is delayed in diabetes and intermittent fasting might improve this response.