Letters to the Editor

Correspondence re: Schoen *et al.*, Lack of Association between Adipose Tissue Distribution, and Insulin-like Growth Factor-I and Insulin-like Growth Factor Binding Protein-3 in Men and Women. Cancer Epidemiol. Biomark. Prev., *11:* 581–586, 2002

Letter

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We commend Schoen *et al.* (1) on their well-conducted study, in which the authors conclude there is no association between adiposity and either IGF-I[1] or IGF binding protein-3, although there was a strong correlation between visceral adipose tissue and insulin level. It has been suggested recently that the relationship between adiposity and IGF-I may be an inverted U, *i.e.*, nonlinear (2). Inspection of Table 3 in Schoen *et al.* (1) suggests that visceral adipose tissue and some of the IGF-related measures have an inverted U-shaped relationship. If this were so, it is not surprising that both the correlation coefficients and the trend tests were not statistically significant, because both tests assume a monotonically increasing or decreasing trend. Given the increasing attention to the role of the IGF family in cancer etiology (3), it would be informative to know whether this purported inverted U-shaped relationship exists in the Schoen *et al.* (1) study population. Understanding how adiposity and its characteristics influence the levels of the IGF family members provides much needed insight regarding potentially modifiable cancer risk factors.

References

1. Schoen, R. E., Schragin, J., Weissfeld, J. L., Thaete, F. L., Evans, R. W., Rosen, C. J., and Kuller, L. H. Lack of association between adipose tissue distribution and IGF-1 and IGFBP-3 in men and women. Cancer Epidemiol. Biomark. Prev., *11:* 581–586, 2002.

2. Lukanova, A., Soderberg, S., Stattin, P., Palmqvist, R., Lundin, E., Biessy, C., Rinaldi, S., Riboli, E., Hallmans, G., and Kaaks, R. Nonlinear relationship of insulin-like growth factor (IGF)-I and IGF- I/IGF-binding protein-3 ratio with indices of adiposity and plasma insulin concentrations (Sweden). Cancer Causes Control, *13:* 509–516, 2002.

3. Yu, H., and Rohan, T. Role of the insulin-like growth factor family in cancer development and progression. J. Natl. Cancer Inst., *92:* 1472–1489, 2000.

Received 1/6/03; accepted 1/15/03.

[1] The abbreviations used are: IGF, insulin-like growth factor.

Reply

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Global tests of general association do not show statistically significant associations between sex-specific VAT quartile and IGF measures, dichotomized as sex-specific median cut-points. Scatter plots do not provide strong evidence for an inverse U-shaped association between IGF-I and VAT, in men (Fig. 1) or women (Fig. 2). The elevated odds of high median IGF-I in women with second quartile VAT relative to women with first quartile VAT probably represents a chance occurrence related to the specific cut-points chosen to convert variables (*e.g.*, IGF-I and VAT) measured on an interval scale into analytic variables measured on an ordinal scale.

Received 2/28/03; accepted 3/19/03.

[1] The abbreviations used are: VAT, visceral adipose tissue; IGF, insulin-like growth factor.

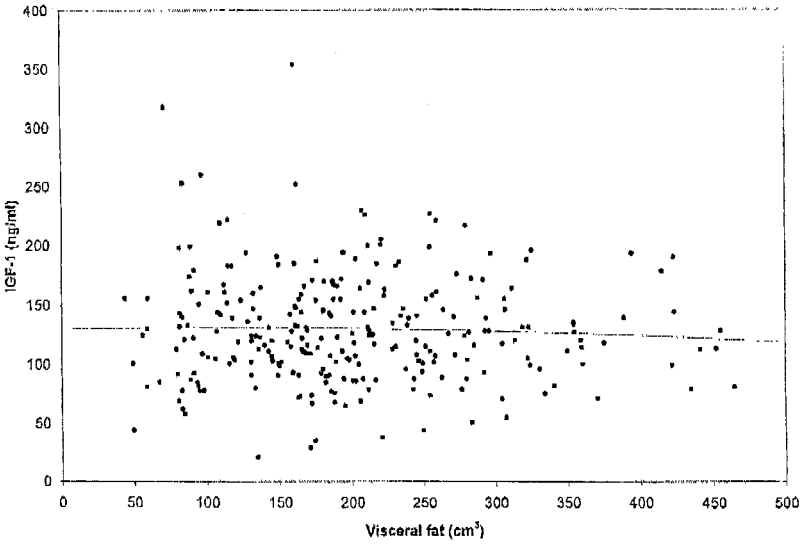

Fig. 1. Association between IGF-I and VAT, in men (n = 267), with least square quadratic regression curve (F value = 0.28, 2 degrees of freedom; P = 0.76).

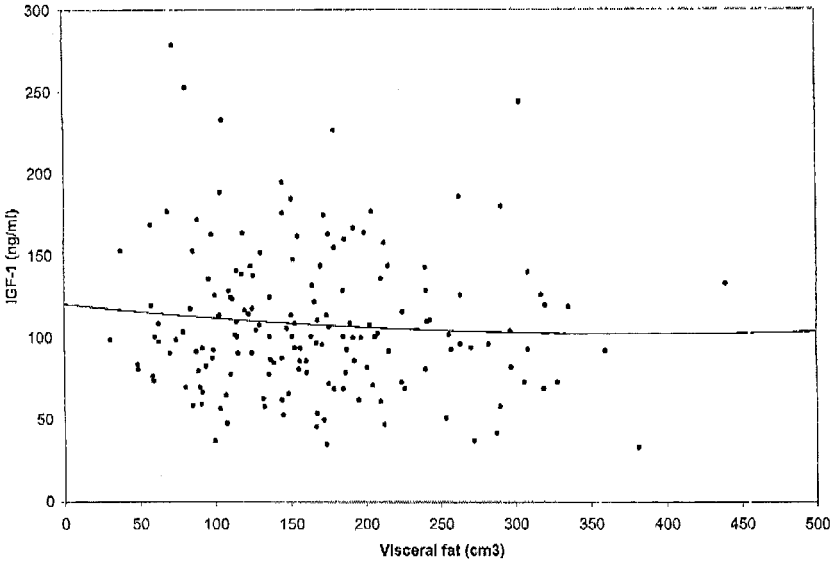

Fig. 2. Association between IGF-I and VAT, in women (n = 165), with least square quadratic regression curve (F value = 0.59, 2 degrees of freedom; P = 0.56).

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Cancer Epidemiol Biomarkers Prev 2003;12:586.