Letters to the Editor

Correspondence re: Cotterchio *et al.*, Nonsteroidal Anti-Inflammatory Drug Use and Breast Cancer Risk. Cancer Epidemiol. Biomark. Prev., *10:* 1213–1217, 2001

Letter

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We read with interest the article by Cotterchio *et al.* (1), in which the authors reported a significant reduction in breast cancer risk associated with the use of nonNSAIDs.[1]

We have investigated recently COX-2 mRNA expression in 40 breast carcinomas and ANCT matched to the tumor specimens (2) using the reverse transcription-PCR. Our study demonstrated increased COX-2 expression in tumor specimens and in ANCT. Of note, expression in ANCT was significantly higher than that of tumors by a factor of 20% ($P = 0.01$). Our findings are consistent with the hypothesis that host COX-2 plays an important role in mammary carcinogenesis (3). Therefore, selective COX-2 inhibitors may have a role in preventing breast cancer.

Furthermore, we observed a significant correlation between COX-2 and vascular endothelial growth factor mRNA expression in tumor specimens ($P = 0.008$). Whether the use of NSAIDs is associated with reduced angiogenesis in tumors clearly requires more investigation. This question may be addressed by determining the microvessel density in archival breast cancer specimens obtained from NSAID users and matched controls. Finally, any association between NSAID use and tumor stage is also likely to be highly relevant to these issues, and we would like to know if this in particular was investigated by the authors of the article.

References

1. Cotterchio, M., Kreiger, N., Sloan, M., and Steinegart, A. Non-steroidal anti-inflammatory drug use and breast cancer risk. Cancer Epidemiol. Biomark. Prev. *10:* 1213–1217, 2001.

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[1] The abbreviations used are: NSAID, nonsteroidal anti-inflammatory drug; COX, cyclooxygenase; ANCT, adjacent noncancerous breast tissue.

2. Kirkpatrick, K., Ogunkolade, W., Bustin, S., Jenkins, P., Ghilchik, M., and Mokbel, K. The mRNA expression of cyclo-oxygenase-2 (COX-2) and vascular endothelial growth factor in human breast cancer. Curr. Med. Res. Opin., in press, 2002.

3. Williams, C. S., Tsujii, M., Reese, J., Dey, S. K., and DuBois, R. N. Host cyclo-oxygenase-2 modulates carcinoma growth. J. Clin. Investig. *105:* 1589–1594, 2000.

Reply

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We thank Dr. Mokbel *et al.* for their letter regarding our article published recently on nonsteroidal anti-inflammatory drug use and breast cancer risk (1). Their finding that cyclooxygenase 2 plays an important role in carcinogenesis is of interest (2) and supports our study results. However, their suggestion that cyclooxygenase 2 inhibition may affect the staging of breast cancer is not clear. In regard to our study (1), breast cancer stage is not available in the Ontario Cancer Registry; therefore, we are unable to investigate stage at diagnosis.

References

1. Cotterchio, M., Kreiger, N., Sloan, M., and Steingart, A. Non-steroidal anti-inflammatory drug use and breast cancer risk. Cancer Epidemiol. Biomark. Prev., *10:* 1213–1217, 2001.

2. Kirkpatrick, K., Ogunkolade, W., Bustin, S., Jenkins, P., Ghilchik, M., and Mokbel, K. The mRNA expression of COX-2 and vascular endothelial growth factor in human breast cancer. Curr. Med. Res. Opin., in press, 2002.

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