



## LETTER TO THE EDITOR

Dear Sir,

### Tryptophan metabolism in women with breast cancer

In women with breast cancer, there is a disturbance of the tryptophan-*niacin* pathway. Rose and Sheff (1967) have studied tryptophan metabolism in this disease and found that half of all patients excreted abnormally elevated levels of an intermediary metabolite, kynurenine, after tryptophan loading. Brown and Davis (1969) confirmed this finding. Because women with the tryptophan metabolism abnormality and breast cancer have a better prognosis than those without the abnormality (Bell et al., 1975) and because the presence of estrogen and progesterone receptors in the tumor confers a better prognosis as well (McGuire and Clark, 1986), we studied the relationship of the tryptophan abnormality to the hormone receptors.

Women with stage I or II breast cancer were recruited for this study. They were given a 2g loading dose of L-tryptophan orally, and then they collected their urine for 24 hr. Urinary kynurenine was assayed by the method of Arend et al. (1970):

Number of subjects	ER <sup>-</sup> PR <sup>-</sup>	ER <sup>+</sup> PR <sup>-</sup>	ER <sup>+</sup> PR <sup>+</sup>
Kynurenine (μmol/day)	15 13.2 ± 6.01	10 15.6 ± 16.6	14 34.16 ± 26.7

F = 5.31, *p* < 0.01 (o.w. ANOVA)

The elevated kynurenine excretion in ER<sup>+</sup>PR<sup>+</sup> women may be due to activation of the immune system. Some preliminary studies by one of us (R.R.B.) have indicated that normal subjects, injected with interferon or interleukin, have high kynurenine excretion after a tryptophan load. Also, upper respiratory infections, which activate the immune system, increase kynurenine excretion. Thus, our finding of high kynurenine excretion in women with both receptors may indicate increased immune reaction against the tumor and perhaps even a better prognosis.

Yours sincerely,

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