

## *Study on Cytosol Estrogen and Progesterone Receptors in Chinese Breast Cancer Tissue*

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The content of estrogen receptor (ER) and progesterone receptor (PgR) in breast tumor has been reported to be a good index for the responsiveness of endocrine therapies in western population. It is an interesting topic for us to study the steroid receptors in Chinese breast cancer.

ER and PgR were determined by dextran-coated charcoal assay analyzed with Scatchard plots in cytosols from 50 and 37 Chinese breast cancer tissues, respectively. (<sup>3</sup>H) estradiol and (<sup>3</sup>H) R5020 (promegestone) were used to estimate ER and PgR, respectively. Human uterus was used as positive control & rabbit kidney as negative control. The positive (> 5 fmol/mg cytosol protein) rate was 40% (20/50) for ER and 38% (14/37) for PgR. The concentration of receptors in the positive tissue was  $66.9 \pm 26.3$  fmol/mg ( $x \pm S.E.$ : range: 5.3-537.5) for ER and  $48.8 \pm 13.8$  fmol/mg (5.4-159.5) for PgR. In 37 specimens, both ER & PgR were determined and the result was ER (+)/PgR (+) 38% (14/37), ER (+)/PgR (-) 5.4% (2/37), ER (-)/PgR (+) 2.7% (1/37), & ER (-)/PgR (-) 54% (20/37). The only case of ER (-)/PgR (+) was a premenopause specimen with ER at 2.8 fmol/mg. Both the positive rate and concentration of positive specimens for ER & PgR were not different significantly between pre- & post-menopausal patients. These results indicated that the menopausal status may not be a suitable index to select endocrine therapies for Chinese breast cancer patients, as it classically suggested for western patients which have a much higher receptor positive rate (80%) for postmenopausal patients 60%-70% for premenopausal patients.

The receptor positive rate for Chinese breast cancer patients are lower than western population. We conclude that concomitant assays of ER and PgR provide a good index to select endocrine therapies for Chinese breast patients.

*Key words: Estrogen receptor, progesterone receptor, dextran-coated-charcoal analysis, scatchard plots.*

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Received for publication Oct. 10, 1983.

