

OncotypeDX recurrence score and its relationship with basic immunohistochemistry for breast cancer patients in a Colombian cancer unit.

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Abstract Disclosures

Abstract

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Background: in developing countries, there is a need to evaluate the correlation between basic immunohistochemistry (IHC) and OncotypeDX recurrence score (RS) in breast cancer patients. Our primary aim was to determine if RS is predicted by estrogen receptor (ER), progesterone receptor (PR) and Ki67 levels in HER2-negative breast cancer. Secondary aims were to determine the relationship among age, tumor grade and tumor size with RS and analyze the concordance of ER and PR determined by IHC and RT-PCR. **Methods:** As part of a prospective cohort study we collected clinical, pathological and OncotypeDx information in 124 patients that underwent surgery for invasive breast cancer from November 2010 to October 2013 at the Instituto de Cancerologia-Clinica Las Americas. We applied multiple linear regression models to predict the RS. ER and PR by IHC or RT-PCR were considered as dichotomous variables. Pearson correlation coefficient (continuous variables) and Cohen's Kappa index (ranking the values positive and negative) were used to determine the correlation and concordance between IHC and hormone receptors by RT-PCR. p-values <0.05 were considered significant. **Results:** Median age was 56 (range, 33-78). The linear regression model was not predictive of the RS (adjusted $R^2=0.341$). Age, tumor size and histologic grade do not predict the RS in multivariate analyses ($p>0.05$). There was a correlation between ER and PR levels by IHC and RT-PCR (Pearson 0.45, $P<0.001$ and 0.72, $p<0.01$ respectively). **Conclusions:** IHC for ER, PR and Ki67 did not predict RS. There was a moderate correlation between IHC and RT-PCR for ER and PR. In this cohort, the RS appears to give additional biological information to standard prognostic factors.

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