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Use of clinicopathologic tumor characteristics to predict results of Oncotype DX 21-gene breast cancer assay: A review of current nomograms

University of Tennessee, USA

The newest version of NCCN guidelines (1.2017) endorses consideration of Oncotype DX 21-gene breast cancer assay results in decision making for administration of systemic adjuvant chemotherapy treatment of hormone receptor-positive, *HER2*-negative, node negative (pN0) or micrometastatic node positive patients (pN1mi), with tumor >0.5 cm. Oncotype DX assay was the most frequently performed assay in the United States, accounting for 97% of all ordered multigene breast cancer tests (based on NCDB 2010-2012 data analysis). The use of multigene assays for breast cancer patients is also embraced by the 8th edition of *AJCC Staging Manual*, which will be in use from January 2018, with an idea that the inclusion of multigene assays in the TNM staging offers further prognostic stratification of breast cancer patients. Unfortunately, multigene assays are expensive and are not affordable or available for the majority of breast cancer patients (~30% of eligible breast cancer patients underwent Oncotype DX testing in the United States and <20% in the European countries). The need for finding surrogate(s) for Oncotype DX assay became apparent several years ago. Free calculators/nomograms are so far freely available online that use clinicopathologic characteristics of breast carcinomas to predict Oncotype DX results: University of Pittsburgh Magee equation, John Hopkins breast recurrence estim(c)-6.ts: ers frd5 (o)12 (fw)-6 (73 (a)