Oncotype DX

There has been much advancement in the treatment of breast cancer due to improved diagnostics, surgical care and adjuvant therapy; however, patients are still receiving sub-optimal treatment, with some undertreated and others over-treated. With increased understanding of biomarkers, treatment can be more individualized, which will in turn improve patient outcomes. Traditional biomarkers have included estrogen receptor, progesterone receptor, HER2 and Ki67. A more recent biomarker has been developed known as Oncotype DX using reverse transcriptase-PCR assay of 21 genes and a mathematical algorithm.

The purpose of the Oncotype DX is to predict the likelihood of recurrence and benefit of chemotherapy in tamoxifen treated patients with node negative, estrogen receptor-positive breast cancer independent of age and tumor size. For each patient, a recurrence score can be calculated to stratify patients into low, intermediate or high-risk groups, which provides an accurate estimate of distant recurrence in individual patients allowing for tailored adjuvant therapy, which will be given to individuals who are most likely to benefit from treatment. Further, the recurrence score can also predict overall survival.

The further developed of the Oncotype DX and similar biomarkers will revolutionize breast cancer treatment. Its use has been clinically validated in several studies and its incorporation into standard breast cancer treatment planning will be groundbreaking.