AB076. Oncotype DX™: a necessary expense in the era of personalised medicine?

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Background: Oncotype DX™ (ODX) individualises patient adjuvant therapy whilst estimating prognosis. ODX relies on genetic signatures; the histopathological phenotype of which are tested routinely. We aimed to correlate ODX scores with clinicopathological and immunohistochemical data, and thus determine whether these parameters are complementary with ODX, without impacting oncological outcome.

Methods: Female breast cancer patients with ODX testing between 2007 and 2015 were studied and categorised into low (LRG) [<11], intermediate-low (ILRG) [11–18], intermediate-high (IHRG) [19–25] and high-risk (HRG) [>25] groups. Clinicopathological and immunohistochemical data were assessed and correlates of ODX score were determined. Oncological outcome was assessed using multivariable Cox regression and Kaplan Meier curves.

Results: A total of 453 patients underwent ODX testing. Median follow-up was 92.0 months. In the LRG (n=68, 15%), ILRG (n=204, 45%), IHRG (n=109, 24.1%) and HRG (n=72, 15.9%). ODX score was significantly associated with lower ER (P=0.003) and PR (P≤0.021) scores, and greater Ki67 (P=0.020), HER2 (P=0.001), grade (P=0.021) and stage (P=0.010). In the LRG; 28% had PR <6, 8.8% had Ki67 >14%, and 85.3% were grade 2 or 3. In the HRG; 43.1% had PR >5, 11.1% had ki67 >14% and 31.9% were grade 3. Disease-free survival was 83% for LRG, 88.7% for ILRG, 88.1% for IHRG and 86.1% for HRG, and metastasis patterns were similar; 42% of LRG had new primaries (n=5), 44% of ILRG (n=10), 39% of IHRG (n=5) and 20% of HRG (n=2).

Conclusions: Our results demonstrate significant correlation between phenotypical genetic parameters and ODX score. However, ODX remains the gold standard in guiding adjuvant treatment.

Keywords: Breast; cancer; genetics; OncotypeDX

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