

[P6-08-06] The multidisciplinary application of genomics in clinical practice (MAGIC) survey: Identification of early stage hormone receptor-positive (HR+), HER2- breast cancer (BC) patients in whom multigene assays may have their highest utility

Aapro M, Bargallo Rocha JE, De Laurentiis M, Elizalde R, Landherr L, Linderholm B, Mamounas T, Markopoulos C, Martin M, Neven P, Petrovsky A, Rea D, Rouzier R, Smit V, Svedman C, Thomssen C. Multidisciplinary Oncology Institute, Clinic of Genolier, Genolier, Switzerland; Instituto Nacional de Cancerologia, Mexico City, Mexico; National Cancer Institute G. Pascale Foundation, Naples, Italy; Hospital Dr. I. Pirovano, Buenos Aires, Argentina; Uzsoki Teaching Hospital, Budapest, Hungary; Sahlgrenska Academy and University Hospital, Gothenburg, Sweden; University of Florida Health Cancer Center at Orlando Health, Orlando, FL; Athens University Medical School, Athens, Greece; Medical Oncology Service, Hospital General Universitario Gregorio Marañón, Madrid, Spain; Multidisciplinary Breast Centre and Gynaecological Oncology, UZ Leuven, Leuven, Belgium; Russian Cancer Research Center, Moscow, Russian Federation; School of Cancer Sciences, University of Birmingham, Birmingham, United Kingdom; Institut Curie-Université Versailles-Saint-Quentin, Paris-Saint-Cloud, France; Leiden University Medical Center, Leiden, Netherlands; Medical Affairs, Genomic Health, Stockholm, Sweden; Martin Luther University of Halle-Wittenberg, Halle (Saale), Germany

Background

Treatment recommendations for early stage HR+, HER2- BC patients depend on many factors. The MAGIC survey evaluated which criteria clinicians use regarding the need for adjuvant chemotherapy (AdjCT) and showed that there was substantial heterogeneity across clinicians and countries in treatment decisions (Aapro et al, EBCC 2014, abstract 24). Multigene assays (MGA) help to make more-informed decisions by providing prognostic and predictive information beyond traditional parameters, but are not always needed. The data presented here show for which BC patient profiles there is a high heterogeneity in treatment recommendations. We suggest that MGAs may be useful to guide treatment recommendations in these cases.

Methods

From August 2013 until January 2014, physicians with ≥ 5 years' experience in BC treatment and participating in multidisciplinary teams were invited for the online MAGIC survey. The survey evaluated respondent characteristics and registered treatment recommendations for randomly generated early BC patient profiles (n=672). A conjoint analysis was used to assess which patient attributes were considered for treatment decisions.

Results

The survey was completed by 911 physicians from 52 countries, of whom 72% had >10 years' experience. Their treatment recommendations showed that for BC patient profiles with only high-risk or only low-risk characteristics, there was a high consensus to recommend AdjCT or no AdjCT (endocrine treatment alone); 42% of the profiles had >75% probability of being recommended AdjCT and 6% had >75% chance of being recommended no AdjCT.

If interactions between patient characteristics were not considered, age was ranked as the most important patient characteristic for AdjCT decisions, followed by tumor grade, tumor size, nodal status, and expression of Ki67, estrogen receptor (ER), and progesterone receptor. The combination of patient attributes and their interactions were, as expected, of importance; some node-positive patients or patients with a Grade 3 tumor had >75% probability to be recommended no AdjCT (eg, older patients or patients with a small [< 2 cm] tumor). Conversely, some patients with small, Grade 1 tumors had >75% probability to be recommended AdjCT (eg, young or node-positive patients).

In total, 104 patient profiles (15%) were identified for which treatment recommendations were highly heterogeneous, with a probability of $< 50\%$ for both an AdjCT treatment recommendation and no AdjCT

as a treatment recommendation. These patient profiles tended to have the following characteristics: >50 years old, tumor size <3 cm, Grade 1 or 2 tumor, high ER expression, and Ki67 expression <20%.

Conclusions

There was substantial heterogeneity in treatment recommendations and an overall tendency to give chemo-endocrine rather than endocrine treatment alone. The highest uncertainty in treatment decisions was seen in patients with intermediate risk by clinical and pathological parameters. This opens questions concerning treatment decisions and in such cases MGAs may be most useful.