

ESMO 2014: new trends in precision medicine

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The European Society of Medical Oncology held its annual meeting last month. This meeting confirmed the essential place of targeted (precision) medicine in the new clinical practice of oncology.

If it is necessary to convince oncologists further of the place of precision medicine in practice, this ESMO meeting brings us a brilliant demonstration with the updated results of the CLEOPATRA study [1]. In this pivotal phase III study, the investigators estimated the safety and efficacy of first-line pertuzumab plus trastuzumab (two antibodies targeted against HER2) with docetaxel in comparison to the simpler combination of trastuzumab plus docetaxel. Eight hundred eight patients with metastatic HER2-positive breast cancer were included in this study. These results are particularly spectacular because the triple combination achieved a gain in global survival of about 16 months (15.7 months), with a median survival of 56.5 months compared with 40.8 months with the standard treatment. According to Dr. Sandra Swain from Medstar, Washington Hospital Center, USA, “the survival improvement of nearly 16 months observed in CLEOPATRA in unprecedented among studies of metastatic breast cancer.” This improvement in global survival is observed in all subgroups of patients. The tolerability profile is in agreement with the previous analyses, without particular risk regarding long-term cardiac safety.

According to Javier CORTES from Val Debron Institute of Oncology in Barcelona “We should consider this combination as the standard of care for our patients.”

This surprising improvement in median survival, which greatly exceeds the improvement in progression-free survival, remains to be explained, although the authors suggest

differential mechanisms of action for the two monoclonal antibodies. The mechanisms of resistance to this combination also remain to be explored in the hope of further improving the therapeutic activity.

However, in order to implement these new standards, doctors and patients have to be informed about these results and about the necessary decision-making. From this perspective, a study [2] involving 895 doctors from 12 countries of Europe, South America, and Asia is interesting. While 82 % of the specialists think that the treatment decision is a process which has to be shared between the doctors and the patient, less than 23 % of these doctors think that the patients are always completely informed. While overall, 73 % of the doctors think that patients know that it is possible to test tumors to help to optimize the treatment, this percentage was lower (55 %) in Germany and in Turkey.

Nevertheless, 90 % of oncologists currently use biomarkers regularly to help select therapeutic agents. The most used tests are the Kras mutation in colorectal cancer and the expression of HER2 in breast cancer. Among the minority not using biomarker testing, 55 % cited the cost or the lack of reimbursement of these tests. Finally, this study shows that 78 % of the oncologists think that their patients need more information to allow them to understand the various types of cancer and how cancers progress. Professor Fortunato Ciardello, Second University of Naples Italy, President Elect of ESMO declared “it is clear that while Personalized Medicine is now a mainstream of the Oncology around the world, more needs to be done to ensure patients are kept up-to-date with the rapid changes in practice too.”

We thus see that it is necessary to better inform the population to provide optimal support to the patients.

We must also underline an important group of compounds with undoubtedly a big future: the immune checkpoint inhibitors (ICIs). These agents block inhibitory receptors such as cytotoxic T lymphocyte-associated antigen 4 (CTLA-4) and

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the death-1 program (PD-1) receptor and its ligand PDL-1, so augmenting the effector function of tumor-specific T-cells against tumor cells.

This annual meeting brings us confirmation of the efficacy of ICIs in advanced melanoma. It is also particularly interesting to note their use in the early phase adjuvant situation [3], ipilimumab given after complete resection of stage III cutaneous melanoma demonstrated a significant improvement in recurrence-free survival. It is also especially striking to note that the spectrum of efficacy of ICIs extends to head and neck, urothelial, and lung cancers. The next stage concerning these agents is the identification of biomarkers that allows better selection of the patients most likely to benefit from this strategy.

The editorial staff of *Targeted Oncology* will naturally be particularly attentive to follow these exciting evolutions during the next international congresses.

Conflict of interest The authors declare that they have no conflict of interest.

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