

## Reports from the European Society for Medical Oncology 2014

Venue: Madrid, Spain. Date: 26-30 September 2014. Reports by Susan Mayor, Medical Journalist.

### Pertuzumab plus trastuzumab increases survival in HER2-positive breast cancer

**A**dding pertuzumab to trastuzumab and chemotherapy increases overall survival by 16 months in women with HER2-positive metastatic breast cancer, according to final results from the CLEOPATRA trial reported at the European Society for Medical Oncology (ESMO) 2014.

The phase III trial randomised 808 patients with HER-2 positive metastatic breast cancer to trastuzumab and docetaxel plus pertuzumab or placebo. Results showed significantly longer median overall survival in patients treated with the pertuzumab combination (56.5 months) compared to those treated without (40.8 months).

"The median overall survival of 56.5 months is unprecedented in metastatic breast cancer. This confirms a regimen of pertuzumab plus trastuzumab and chemotherapy as the first-line standard of care for these patients," said lead author Sandra Swain (pictured), from the Medstar Washington Hospital Center, Washington, USA. She added, "Many of us work all our careers in cancer research to present data like this."

Pertuzumab and trastuzumab both target the HER2 receptor, a cell surface protein that is overexpressed in HER2-positive cancers, but they bind in different ways. Pertuzumab prevents the HER2 receptors from pairing with other HER receptors, which is a process that plays a role in tumour growth and survival. Trastuzumab activates the body's immune system and suppresses HER2 signalling to target and destroy a tumour.

Commenting on the study, Giuseppe Curigliano, Director of the Division of Experimental Therapeutics in Milan, Italy, said, "The



CLEOPATRA trial changes clinical practice. We now have a new standard of care for patients with metastatic HER2-positive breast cancer." He noted that similar efficacy results have been reported in the neoadjuvant setting. The NeoSphere trial found that dual targeting with pertuzumab and trastuzumab plus chemotherapy significantly improved the percentage of patients with early HER2-positive breast cancer who had a pathological complete response. The potential of dual targeting in the adjuvant setting is being investigated in the ongoing APHINITY trial, which is comparing dual targeting with pertuzumab and trastuzumab versus trastuzumab alone.

Reference: ESMO 2014 3500\_PR

### Chemotherapy and radiotherapy during pregnancy are safe for offspring

**C**hildren exposed to chemotherapy or radiotherapy while in the womb suffer no negative effects on neurocognitive or cardiac development, show results from studies reported at the Congress.

Oncologists are often hesitant to give chemotherapy to treat cancer in women who are pregnant because of lack of knowledge about the impact on the unborn child. To investigate this, researchers studied 38 children prenatally exposed to chemotherapy who were listed on the International Network for Cancer, Infertility and Pregnancy Registry. They were matched with 38 control children and measures of mental development and cardiac health assessed.

Results showed no difference between the two groups of children at a median age of almost two years. Neurocognitive development, as measured by the Mental Development Index, was in the normal range for both sets of children. Cardiac dimensions and functioning were also within normal ranges for all of the children.

"When chemotherapy is administered after the first trimester of pregnancy, we cannot discern any problems in the children," said lead author Dr Frederic Amant, from University Hospitals Leuven in Belgium. "Fear about the risks of chemotherapy administration should not be a reason to terminate a pregnancy, delay cancer treatment for the mother, or to deliver a baby prematurely."

A second study, including 16 children and 10 adults listed on the Registry, gave similarly reassuring results on the exposure to radiotherapy in utero. This first long-term follow-up study of prenatal medical radiation treatment showed that neuropsychological, behavioural and general health outcomes were within normal ranges for those exposed to radiotherapy. One child had a severe cognitive delay but they had been exposed to a relatively low dose of radiotherapy and the problem was attributed to other pregnancy-related complications.

Commenting on the results, Dr Fedro Alessandro Peccatori, Director of the Fertility & Procreation Unit at the European Institute of Oncology's Division of Gynaecologic Oncology, said, "This is the first long-term follow-up study of children and adults exposed to radiotherapy in utero. Pregnancy, particularly advanced pregnancy, has been traditionally considered a contra-indication to radiotherapy. New radiation techniques and more sophisticated simulations of the received fetal dose may change this scenario, but caution remains mandatory when giving radiotherapy to a pregnant woman, particularly in the third trimester."

References: ESMO 2014, 268PD\_PR; 49LBA\_PR