

## 8TH EUROPEAN BREAST CANCER CONFERENCE VIENNA, AUSTRIA, 21–24 MARCH

### Combination treatment improves bone health in postmenopausal women with advanced breast cancer

Results from a phase III clinical trial evaluating a new treatment for breast cancer in postmenopausal women show that a combination of everolimus and exemestane significantly improves bone strength and reduces the chances of cancer metastasizing in the bone.

Professor Michael Gnant, Co-ordinator of the Comprehensive Cancer Centre at the Medical University of Vienna, Vienna, Austria, and colleagues looked at markers for bone turnover and bone resorption in the 724 patients enrolled in the trial and randomized to receive either everolimus and exemestane or exemestane alone.

The patients had an average age of 62 years, were from 24 different countries and had been

treated previously with aromatase inhibitors. They were enrolled between June 2009 and January 2011, and the researchers assessed three different bone markers at the time of enrolment and after 6 and 12 weeks.

Levels of all three bone markers decreased significantly after 6 and 12 weeks for women taking everolimus, indicating a low turnover of bone, which improves bone strength and health. After 6 weeks, bone-specific alkaline phosphatase had dropped by 5.5%, aminoterminal propeptide of type 1 collagen had dropped by 20.4%, and C-terminal cross-linking telopeptide of type I collagen had dropped by 6.3%. After 12 weeks, they had decreased by 3.6%, 26.8% and

0.5% respectively. In the placebo group they all increased.

Overall, out of all the women in the trial, only 3% of the women taking everolimus had further bone metastases after 60 days, compared with 6% in the placebo group.

Professor Gnant said that these results would change clinical practice: 'These results indicate a new standard of care for women with advanced oestrogen receptor positive breast cancer that is resistant to hormonal therapy.'

Gnant M, Hortobagyi GN, Rugo H et al (2012) Everolimus added to exemestane reduced bone markers in postmenopausal women with advanced breast cancer (ABC): the BOLERO-2 Trial. 8th European Breast Cancer Conference, Vienna, Austria: 21–24 March

### Chemotherapy side effects can be predicted

The largest study ever on the effect of genetic variability on the toxicity of chemotherapy in breast cancer shows that it is possible to predict which patients are most likely to suffer serious side effects.

Dr Christof Vulsteke, from the Catholic University of Leuven, Belgium, and his team examined germline DNA from blood samples from 1089 breast cancer patients treated between 2000 and 2010 with fluorouracil, epirubicin and cyclophosphamide. For each patient, the variability in the genes that are important for metabolizing these drugs was compared with the side effects experienced.

'We found that genetic variation in one gene was highly correlated with chemotherapy side effects,' says Dr Vulsteke. 'Investigating this gene before starting chemotherapy would allow us to support the patient with either growth factors ..., dose modifications, or a different chemotherapy regimen...'

Vulsteke C, Lambrechts D, Dieudonné AS et al (2012) Patient related factors and responsive therapy genetic variability in multi drug resistance protein 1 (ABCC1/MRP1) and UDPGlucuronosyltransferase-2B7 (UGT2B7) are highly correlated with severe haematological toxicity of adjuvant FEC in breast cancer. 8th European Breast Cancer Conference, Vienna, Austria: 21–24 March

### Ultrasound-guided surgery should become standard of care for removing breast tumours

The use of ultrasound-guided surgery to remove tumours from women who have palpable breast cancer is much more successful than standard surgery in excising all the cancerous tissue while sparing as much healthy tissue as possible, according to the results of a randomized controlled trial.

Dr Nicole Krekel, a PhD student in the department of surgical oncology and resident doctor in plastic and reconstructive surgery at VU University Medical Center in Amsterdam, and her colleagues randomized 124 patients with palpable early stage breast cancer to either ultrasound-guided

surgery or standard palpation-guided surgery. They found that among the 61

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women in the ultrasound-guided surgery group only 3.3% of the margins contained cancerous cells compared with 16.4% among the 63 women in the palpation-guided surgery group. As a result, ultrasound-guided surgery resulted in a significant reduction in re-excisions, mastectomies and extra radiotherapy.

Krekel NMA, Haloua MH, Lopes Cardozo AMF et al (2012) Intraoperative ultrasound is imperative to obtain adequate tumour margins and excision volumes in breast-conserving surgery for palpable breast cancer: results of a randomised controlled trial. 8th European Breast Cancer Conference, Vienna, Austria: 21–24 March