HER2, KRT19, EGFR, EpCAM and/or ELF3. Analysis of additional samples is ongoing, as is the analysis of further mesenchymal markers for RT-PCR.

Conclusions: Using both epithelial and mesenchymal markers can increase the yield of CTC/DTC from advanced breast cancer patients, representing a more sensitive means of identifying patients with an increased risk of recurrence, and monitoring patient response to systemic therapy. Analysis of the EMT status of these cells may also add benefit in predicting treatment outcomes and therefore optimising treatment regimes.

Supported by the National Breast Cancer Foundation (Australia).

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Is Hepatic Arterial Infusion Chemotherapy Truly Ineffective for Liver Metastasis From Breast Cancer?

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Background: Liver metastasis from breast cancer (BCLM) is generally considered to be a prognostic factor and the median survival time after a diagnosis of BCLM is reported about 12-24 months. When BCLM is detected, patients usually undergo treatment by systemic chemotherapy (SCx) and metastases eventually spread throughout the body.

Oncologists do not recommend hepatic arterial infusion chemotherapy (HAIC) because there has been no definite evidence of a survival benefit, while there are severe toxicities associated with the treatment. However, good local control for BCLM by HAIC has also been reported.

This retrospective study aimed to evaluate the efficacy and safety of HAIC for BCLM for the patients who failed first/second line SCx based on anthracycline and taxane-based chemotherapy.

Material and Methods: From September 2002 to September 2011 at our hospital, 49 female patients with BCLC were treated by HAIC after failure of anthracycline- and taxane-based chemotherapy. The patients received 5-fluorouracil at 500 mg/body each week, Mitomycin C at 4 mg/body once every 2 weeks, and Epirubicin at 40 mg/body once every 4 weeks, via an implantable port-catheter system placed by an interventional radiological procedure.

We evaluated the survival (Kaplan-Meier method), response of the BCLM (RECIST v1.1), and the toxicity of the treatment (CTCAE v4.0).

Results: The median age of the 49 patients was 55 years (range 30−80y). The disease-free survival time from the primary surgery was 36 months (0–288months) excluding one stage 4 patient who did not undergo an operation.

The objective response rate (CR+PR; ORR) of the liver metastasis was 69% (34/49) and the disease control rate (CR+PR+SD; DCR) was 82% (40/49). The median survival from the diagnosis of BCLM was 28.5 months (95% CI = 20−35 months), the survival time after HAIC was 13 months (95% CI = 7−16 months), and the hepatic progression free survival was 7.5 months (95% CI = 4−11).

Complications($\geqslant$Grade 3) occurred in 13 patients (liver dysfunction in 3, myelosuppression in 9, and gastric ulcer in 1). Catheter-related events occurred in 1 patient (a pseudoaneurysm in a peripheral hepatic artery without symptoms) with no need for additional treatment.

Conclusion: Although they were treated after failure of anthracycline- and taxane-based chemotherapy, all patients had a good ORR and DCR, and the survival time was good. These results suggest that the HAIC prolongs the survival of patients with BCLM who failed to respond to anthracycline- and taxane-based chemotherapy, without inducing any major toxicities.

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Fulvestrant in the Treatment of Metastatic Breast Cancer (MBC). A Retrospective Analysis of the Results From Two Centers in Northern Greece

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Introduction: Fulvestrant, an estrogen receptor downregulator, is currently approved for the treatment of advanced breast cancer in post-menopausal women. As it has a unique mechanism of action it does not display cross-resistance with other endocrine treatments (tamoxifen and aromatase inhibitors [AI]) and therefore has been used after the failure of tamoxifen, AI or both. In the present study, we retrospectively analyzed the progression free survival of MBC patients treated with fulvestrant in two centers form Northern Greece (Oct 2004 till Nov 2010). Patients were analyzed according to line of treatment and to whether they received fulvestrant as 'treatment' or as 'consolidation' (i.e. after chemotherapy, without previous evidence of progression).

Patients: A total number of 169 eligible patients were identified. All patients were postmenopausal (younger patients had ovarian ablation) and had received at least one line of previous endocrine treatment either in the adjuvant or in the metastatic setting. Fulvestrant was delivered intramusculary in the standard dose (250 mg every 28 days, n = 14), a loading dose scheme (initial dose of 500 mg at day 0 and 250 mg fulvestrant on day 14 and 28 and every 28 days thereafter, n = 72) or at a high dose (500 mg fulvestrant on days 0, 14 and 28 and every 28 days thereafter, n = 83).

Results: Median progression-free survival (PFS) was 6 months (95% CI: 5−8 months). Line of treatment differentiated statistically significantly outcome (p = 0.0001), with median PFS for 1st line 12 months (95% CI: 8−20 months), for 2nd line 6 months (95% CI: 5−10 months) and for 3rd line and above 5 months (95% PFS 3−6 months).

Regarding type of therapy, 55% of the patients received fulvestrant as 'consolidation' and 45% as 'treatment'. Consolidation was much more common in the 1st line (62%), a finding indicating that oncologists tend to treat 1st line patients with chemotherapy rather than endocrine therapy. Fulvestrant as 'treatment' resulted in longer PFS (9 vs 5 months), however this did not reach statistical significance (p = 0.18). In first-line patients when fulvestrant was given as 'consolidation' it resulted in a median PFS of 8 months vs 22 months when it was given as 'treatment' (p = 0.012). However, this may be attributed a selection bias, as patients with more aggressive disease were more likely to receive first-line chemotherapy and to continue with fulvestrant as 'consolidation'.

Conclusion: Fulvestrant is an effective hormonal treatment for post-menopausal MBC women. Earlier incorporation into the therapeutic strategy may result in better outcome for these patients.

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Long Term Treatment with an All-oral Metronomic Schedule of Vinorelbine (VRL) and Capecitabine (CAPE) in Metastatic Breast Cancer (BC) Patients (pts). Preliminary Results of Toxicity and Efficacy of the VICTOR-2 Study

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Background: Previous data of the VICTOR-1 study (BCRT, 2010) established that the recommended dose of metronomic oral VRL in combination with fixed daily (500 $\times$ 3 mg) continuous doses of CAPE is 40 mg thrice a week. These data suggested that the combination is feasible with very low toxicity, thus no G3−4 events were reported. Due to the small number of the pts treated in the Phase I part of the study (N = 12), no conclusion could be done about efficacy and long-term toxicity. Aim of the present analysis is the evaluation of efficacy and toxicity in a group of pts who received the metronomic treatment with VRL 40 mg thrice a week plus CAPE 500 mg $\times$3 daily, for a period longer than 6 months.

Materials and Methods: Of the 31 pts actually enrolled in the Phase II part of the VICTOR study, 9 received VRL+CAPE for more than 6 months. Median age was 75 (47−84), all pts but 2 had a PS >80, 8/9 had $\geqslant$3 metastatic sites, 8 were HR+. Median DFI was 38 months (0–120). Five pts (55%) had already been treated with previous chemotherapy, mainly containing anthracyclines and/or taxanes. A cycle was arbitrary considered to be composed by 3 weeks. Median number of the cycles received is 18 (12−23). Partial Response (PR) was obtained in 5/9 pts (55.5%), the others obtained SD >24 weeks, for an overall CB (OR+SD >24 weeks) of 100%. Median TTP is not yet reached, thus considering that all pts but 2 are still responding to the metronomic therapy. Only 1 patient experienced disease progression after 16 months; the second one refused to continue therapy. In 164 cycles delivered, we observed 10 (6%) G3 events (6 related to VRL) and 2 (1%) G4 events, all of them related to VRL. G3−4 toxicities were mainly hematological (leukopenia/neutropenia: 6 events).

Conclusion: These data, obtained during a very long treatment period, confirm that the all-oral metronomic schedule of VRL+CAPE is feasible, with a very low incidence of G3−4 events. The efficacy of the metronomic schedule of these two drugs is very promising. The Phase II study is still ongoing.