53 years (range 28−80 years). Four patients (13.3%) underwent resection of brain metastases, twenty-three patients (76.7%) received whole-brain radiation therapy, and six patients (20%) had gamma-knife surgery. The median overall survival time was 8 months (95% CI, 6–10 months). Patients with brain metastases had more breast tumors of larger size (p = 0.000), positive lymph node status (p = 0.049), higher histological grade (p = 0.001), higher rate of negative estrogen receptors (p = 0.023) and higher rate of HER2 over-expression (p = 0.000). By multivariate analysis, larger tumor size, negative estrogen receptor status and HER2 over-expression were found to be independent significant factors associated with brain metastases.

Conclusions: Primary breast cancers which metastasize to the brain in Chinese patients are usually estrogen receptor negative and HER2 over expressing. This finding is consistent with those observed in Western literatures. Targeted therapies towards HER2 over-expressed tumors which can cross the blood brain barrier are needed to treat breast cancer patients with brain metastases effectively.

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Skeletal-related event (SRE) history, bone metastasis location and number affect SRE risk and patient survival in metastatic breast cancer

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Background: The majority of patients with advanced breast cancer develop bone metastases. Survival in these patients ranges from 2 to 3 years. The prognostic potential of certain skeletal health indices measured during bisphosphonate therapy have not been systematically investigated. We conducted a retrospective analysis of data from a pamidronate-controlled trial of zoledronic acid in patients with bone metastases from breast cancer (Rosen LS, et al. *Cancer* 2003;98:1735–1744) to determine the association between patient SRE history, and lesion number and location on SRE risk and survival.

Material and Methods: Only patients treated with zoledronic acid who had lesion site and number, SRE history, and bone pain data were included in this analysis. Univariate analyses were used to assess risk ratios (RR) for time to first SRE and death at baseline (n = 664), 6 (n = 553) and 12 months (n = 435). SREs included pathologic fracture, spinal cord compression, radiotherapy or surgery to bone.

Results: In patients who had a prior SRE at baseline, the risk of a subsequent SRE was increased 2.15-fold ($P < 0.0001$) compared with patients who had not experienced a prior SRE. Patients with prior SREs at 6 and 12 months also had a higher risk of subsequent SREs (RR = 2.305, $P < 0.0001$; RR = 1.88, $P = 0.016$, respectively). Similarly, patients with $\geqslant 4$ bone lesions at each time point assessed had a significantly increased risk of experiencing another SRE ($P < 0.001$ for all). Lesions in weight-bearing bones did not significantly increase the risk of subsequent SREs. At baseline, patients with a prior SRE had a significantly increased risk of death compared with patients without prior SREs (RR = 1.361, $P = 0.0083$), and the risk was also higher at 6 months (RR = 1.543, $P = 0.0029$) and 12 months (RR = 1.455, $P = 0.0481$). Patients with $\geqslant 4$ bone lesions at baseline, 6 and 12 months had a significantly higher risk of death (RR = 1.372, 1.666, 1.758, respectively; $P < 0.006$ for all). At 12 months, patients who had $\geqslant 1$ lesion in a weight bearing bone had a 44% increased risk of death that was not statistically significant.

Conclusions: The disease parameters prior SRE and $\geqslant 4$ bone lesions significantly increased the risk of subsequent SREs and death when assessed at baseline, 6 and 12 months. Patients with $\geqslant 1$ lesion in weight-bearing bones only had an increased risk of death without affecting their risk of subsequent SREs. Multivariate analyses to place these parameters in context with other prognostic variable are under way.

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Retrospective analysis of chemotherapy choices and overall survival according to treatment in 96 patients >75 years old with metastatic breast cancer

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Background: The optimal treatment for patients (pts) >75 years of age with metastatic breast cancer (MBC) is unclear and shows wide variation between clinics and countries.

Methods: We analysed all pts treated from 1st January 2000 for MBC at the Institut Bergonié, Bordeaux, France. To be eligible, pts must have received their first line of chemotherapy at age >75 years.

Results: The analysis includes 96 pts (median age 78, range 75−91). Seven pts (7%) were $\geqslant 85$ years and 34 (35%) were $\geqslant 80$ years when they received their first chemotherapy for MBC. First-line chemotherapy consisted of capecitabine in 53 pts (55%), vinorelbine in 21 (22%, combined with gemcitabine in 2 pts [2%]), FEC_{50} in 12 (13%), docetaxel in 6 (6%), liposomal doxorubicin in 2 (2%), mitoxantrone in 1 (1%) and 'other' in 1 (1%). Choice of chemotherapy was not age dependent: median age was 78.4 years in the subgroup receiving capecitabine and 77.0 and 77.3 years in the subgroups receiving vinorelbine and FEC50, respectively. In our clinic, capecitabine was first used in January 2002 and was given in 53 of 67 patients (79%) treated thereafter. As of January 2008, median overall survival (OS) from the start of chemotherapy was 14.0 months (95% CI: 11.3−16.7). Survival rates at 3 months, 1 year and 2 years were 82.2% ±4.1%, 56.1% ±5.1%, and 25.0% ±4.6%, respectively. Subanalysis according to age showed median OS of 15.2 months ±3.4 (SE) in pts aged 75−76 (n = 33), 10.1 months ±2.1 in pts aged 77−79 (n = 29) and 13.3 months ±2.0 in pts aged $\geqslant 80$ years (n = 34). Median OS was longest in pts receiving capecitabine (15.1 months ±2.6, vs 10.0 months ±3.2 in pts receiving other chemotherapy).

Conclusions: To our knowledge, there are no published data on efficacy outcomes with chemotherapy use in MBC pts >75 years. In the early part of this decade, various chemotherapy regimens were used, with vinorelbine and FEC among the most commonly administered. We now prefer capecitabine for a large majority of this pt population, based on high efficacy and good tolerability. Our observations support the use of capecitabine as first-line treatment in this setting, with many pts deriving substantial benefit from this therapy (median OS of 15.1 months).

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Randomized comparisons of weekly versus every-3-week nab-paclitaxelin patients with metastatic breast cancer

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Background: Nanoparticle albumin-bound (nab)-paclitaxel is a novel taxane that has demonstrated nearly double the overall response rate (ORR) in patients with metastatic breast cancer (MBC) compared with solvent-based paclitaxel. The current analysis compares the safety and efficacy of 2 different dosing schedules of nab-paclitaxel from phase II and phase III trials in patients with MBC.

Materials and Methods: This is a subset analysis of the nab-paclitaxel arms of 2 large randomized phase II (CA-024) and III (CA-012; Gradishar et al. J Clin Oncol. 2005;23:7794–7803) trials that compared nab-paclitaxel with either solvent-based paclitaxel or docetaxel in patients with MBC. Patients received nab-paclitaxel 260 mg/m^2 intravenously (IV) every 3 weeks (q3w) in the phase III trial and 300 mg/m^2 IV q3w, 100 mg/m^2 IV weekly 3 out of 4 (qw 3/4), or 150 mg/m^2 IV qw 3/4 in the phase II trial. All doses were administered over 30 minutes without corticosteroid or antihistamine premedication or special tubing sets.

Results: See the table.

	Every 3 weeks		Weekly	
	300 mg/m^2 (n = 76)	260 mg/m^2 (n = 229)	150 mg/m^2 (n = 74)	100 mg/m^2 (n = 76)
Received as 1st-line therapy, %	100	43	100	100
ORR, %	46	33	74	63
mPFS, months	10.9	5.2	14.6	7.5
mOS, months	NA	14.9	NA	NA
Grade 4 neutropenia, %*	5	9	9	5
Grade 3 PN, %	17	10	14	8

Data from study CA-012 were previously reported (Gradishar et al. J Clin Oncol. 2005; 23:7794–7803).
ORR = Overall response rate; mPFS = Median progression-free survival; mOS = Median overall survival; NA = Not available because data is not yet mature for phase II study.
*Grade 4 neutropenia based on central laboratory data.

Conclusions: Nab-paclitaxel demonstrated efficacy and was well tolerated regardless of dose regimen. Grade 4 neutropenia and grade 3 sensory neuropathy were similar in the nab paclitaxel weekly groups compared with the nab-paclitaxel q3w groups. Because of the superior