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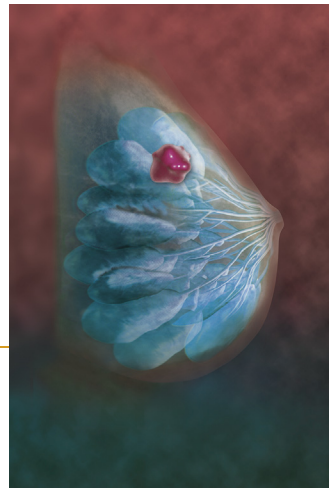

Illustration by Erin Moore

Original Studies

113 Relapsed and De Novo Metastatic HER2-positive Breast Cancer Treated With Trastuzumab: Tumor Genotypes and Clinical Measures Associated With Patient Outcome

Vassiliki Kotoula, Kalliopi Tsakiri, Georgia-Angeliki Koliou, Georgios Lazaridis, Kyriaki Papadopoulou, Eleni Giannoulatou, Ioannis Tikas, Christos Christodoulou, Kyriakos Chatzopoulos, Mattheos Bobos, George Pentheroudakis, Eleftheria Tsolaki, Anna Batistatou, Athanassios Kotsakis, Angelos Koutras, Helena Linardou, Evangelia Razis, Eleni Res, Dimitrios Pectasides, George Fountzilas

Patients with human epidermal growth factor receptor 2 (HER2)-positive metastatic breast cancer (MBC) present with relapse after adjuvant chemotherapy for early stage disease (R-MBC) or directly with stage IV disease (de novo, dn-MBC). We analyzed tumor mutational profiles from 113 trastuzumab-treated patients with HER2-positive MBC. We identified distinct prognostic impact of tumor genotypes in R-MBC and dn-MBC that may be used in the context of personalized medicine.

126 21-Gene Recurrence Score Testing in HER2-positive Patients

Ariella M. Altman, Schelomo Marmor, Todd M. Tuttle, Jane Yuet Ching Hui

131 Potential Novel Therapy Targets in Neuroendocrine Carcinomas of the Breast

Semir Vranic, Juan Palazzo, Souzan Sanati, Elena Florento, Elma Contreras, Joanne Xiu, Jeffrey Swensen, Zoran Gatalica

Neuroendocrine breast cancer lacks specific therapy, but similar common neuroendocrine carcinomas may offer guidance for therapy development. This study, for the first time, identified several biomarkers for targeted therapy approaches in patients with breast neuroendocrine carcinoma.

137 A New Genetic Risk Score to Predict the Outcome of Locally Advanced or Metastatic Breast Cancer Patients Treated With First-Line Exemestane: Results From a Prospective Study

Sara Gagno, Mario Rosario D'Andrea, Mauro Mansutti, Chiara Zanusso, Fabio Puglisi, Eva Dreussi, Marcella Montico, Paola Biason, Erika Cecchin, Donatella Iacono, Stefania Russo, Marika Cinausero, Silvana Saracchini, Giampietro Gasparini, Donata Sartori, Mario Bari, Elena Collovà, Rosa Meo, Ghassan Merkabaoui, Ilaria Spagnoletti, Arianna Pellegrino, Lorenzo Gianni, Paolo Sandri, Elisabetta Cretella, Emanuela Vattemi, Andrea Rocca, Patrizia Serra, Maria Agnese Fabbri, Giovanni Benedetti, Laura Foghini, Michele Medici, Umberto Basso, Vito Amoroso, Ferdinando Riccardi, Anna Maria Baldelli, Mario Clerico, Salvatore Bonura, Chiara Saggia, Federico Innocenti, Giuseppe Toffoli

Currently there are no reliable biomarkers to predict outcome of exemestane treatment. We designed a prospective study to investigate whether constitutive genetic background might affect response to therapy. In a population of 302 advanced breast cancer patients treated with exemestane we showed that a 5—polymorphism-based genetic score could be used to identify patients with different risks of progression and death.

146 Metabolic Characterization of Inflammatory Breast Cancer With Baseline FDG-PET/CT: Relationship With Pathologic Response After Neoadjuvant Chemotherapy, Receptor Status, and Tumor Grade

Heather A. Jacene, Trisha Youn, Pamela J. DiPiro, Jiani Hu, Su-Chun Cheng, Yoko Franchetti, Hina Shah, Jennifer R. Bellon, Laura Warren, Emily Schlosnagle, Faina Nakhlis, Jennifer Rosenbluth, Eren Yeh, Beth Overmoyer, Dana-Farber Cancer Institute Inflammatory Breast Cancer Program

The prognostic value of baseline fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography (FDG-PET/CT) was explored in 61 women with inflammatory breast cancer. Higher baseline metabolic activity in primary inflammatory breast cancer tumor did not predict pathologic complete response after neoadjuvant systemic therapy but was likely associated with an increased risk of death. Confirmation and assessment of how this information could affect treatment choices in the neoadjuvant setting is needed in larger studies.

Available Exclusively Online at www.clinical-breast-cancer.com

e327 Implementation of a Multidisciplinary Model of Care for Women With Metastatic Breast Cancer: Challenges and Lessons Learned

Sarah-May Blaschke, Karla C. Gough, Boon H. Chua, Prudence A. Francis, Robyn Cockerell, Allison F. Drosdowsky, Lisa Sheeran, Meinir Krishnasamy

The present study examined the implementation of a multidisciplinary team model of care for 62 women with metastatic breast cancer who had accessed specialist services at a large Australian cancer center. The model of care strengthened team collaboration and assisted in the delivery of personalized assessment and complex care plans. However, new resources were required to deliver consistent care.

e337 Soy Foods Might Weaken the Sensitivity of Tamoxifen in Premenopausal Patients With Lumina A Subtype of Breast Cancer

Kaifeng Deng, Shanying Mo, Xuexiang Liu, Jifei Chen, Qiaoyun Zhang, Xiaoli Chen, Jianming Chen, Shengming Dai

Epidemiologic studies held that soy foods are beneficial to breast diseases, but the impact of soy foods on breast diseases is still controversial. In premenopausal patients with Lumina A subtypes of breast cancer, 14 samples were analyzed by GEO2R. Soy foods altered the estrogen receptor-related gene profile in Lumina A subtypes of breast cancer dramatically. Soy foods might weaken the sensitivity of tamoxifen and improve the curative effect of neoadjuvant chemotherapy.

e343 Stereotactic Radiosurgery Versus Whole Brain Radiation Therapy: A Propensity Score Analysis and Predictors of Care for Patients With Brain Metastases From Breast Cancer

Walker Mainwaring, John Bowers, Ngoc Pham, Todd Pezzi, Mihir Shukla, Mark Bonnen, Michelle Ludwig

Brain metastases from breast cancer have historically been treated with whole-brain therapy, but the use of stereotactic radiosurgery is increasing. The National Cancer Database was used to compare patients who had received either modality of radiation therapy. Higher income, private insurance, treatment at academic centers, and longer overall survival were all associated with stereotactic radiosurgery use.

e352 Ultrasound-Guided Vacuum-Assisted Biopsy in Small Breast: A Cost-Saving Solution

Chiara Adriana Pistolese, Antonella Castrignanò, Francesca Ricci, Rosaria Meucci, Giusy Croce, Mariateresa Mondillo, Alberto Collura, Tommaso Perretta, Roberto Floris

The study is on ultrasound-guided breast biopsy, which is a cost-saving solution to obtain appropriate samples from suspect lesions, and thereby avoid surgery.

e358 Breast Reconstruction Actualized in Nipple-sparing Mastectomy and Direct-to-implant, Prepectoral Polyurethane Positioning: Early Experience and Preliminary Results

Roy de Vita, Ernesto Maria Buccheri, Amedeo Villanucci, Marcello Pozzi

We report on our early experience with nipple-sparing mastectomy and direct to polyurethane implant breast reconstruction using a prepectoral approach.

e364 Comparison of Radioactive Seed Localized Excision and Wire Localized Excision of Breast Lesions: A Community Hospital's Experience

Fernando A. Angarita, Sergio A. Acuna, Nancy Down, Chung Shan Leung, Farahnaz Pirmoradi, Fahima Osman

Studies comparing wire localized excision (WLE) and radioactive seed localized excision (RSLE) may not reflect community hospital practice. To compare the oncologic safety and operating room time, we performed a large retrospective cohort study of patients who underwent WLE or RSLE in a community hospital. RSLE had shorter operation time and smaller surgical specimens relative to WLE but no differences in the positive margin rates.

e370 The Effect of Polymorphism in UGT1A4 on Clinical Outcomes of Adjuvant Tamoxifen Therapy for Patients With Breast Cancer in China

Bo Lan, Fei Ma, Mei Han, Shanshan Chen, Wenna Wang, Qiao Li, Ying Fan, Yang Luo, Ruigang Cai, Jiayu Wang, Peng Yuan, Pin Zhang, Qing Li, Binghe Xu

More markers are needed to guide adjuvant endocrine therapy decisions for patients with breast cancer. In this study, we found that patients with breast cancer with rs869283 variations (G/A or A/A) in the UGT1A4 gene, accounting for 21.3% of the population, received less benefit from adjuvant tamoxifen treatment. The efficacy of adjuvant aromatase inhibitors could not be influenced by this polymorphism.

e376 A Better Pathway? Building Consensus and Engaging Providers with Feedback to Improve and Standardize Cancer Care

Sarah Colonna, John Sweetenham, Trever B. Burgon, Saundra S. Buys, Ray Lynch, Trang Au, Eric Johnson, Timothy Kubal, David Paculdo, Maria Czarina Acelajado, John W. Peabody

To reduce unwanted clinical variation in a multidisciplinary breast cancer team, we utilized patient simulations with feedback and the in-house development of breast cancer pathways. At baseline, we found high variation in care decisions across the team. After introduction of clinical pathways and serial measurement and feedback of patient simulations, we saw significantly reduced variation.

e385 8-Hydroxy-2′-deoxyguanosine as a Discriminatory Biomarker for Early Detection of Breast Cancer

Essam Eldin Mohamed Nour Eldin, Mahmoud Zaki El-Readi, Mohamed Mahmoud Nour Eldein, Albagir Ali Alfalki, Mohammad Ahmad Althubiti, Hala Fawzy Mohamed Kamel, Safaa Yehia Eid, Hiba Saeed Al-Amodi, Ahmad A. Mirza

For early detection of malignant tumors, serum levels of 8-hydroxy-2′-deoxyguanosine were determined in 50 women with benign breast tumors, 50 women with breast cancer (BC), and 50 healthy women as a control group. 8-hydroxy-2′-deoxyguanosine levels were significantly increased in the BC group compared with the benign tumor and the healthy control groups; thus it can be used as a potential noninvasive biomarker for early detection of BC.

e394 Role of Overweight, Obesity, and Comorbidities in the Prognosis of Patients With Breast Cancer With Brain Metastases

Bernardo Cacho-Díaz, Héctor Spínola-Maroño, Nancy Reynoso, Alberto González-Aguilar, Alejandro Mohar-Betancourt

Brain metastases from breast cancer occur in 20% to 30% of patients, with a short overall survival. Some have previously postulated a role of overweight, obesity, and diabetes in their prognosis. A database analysis from 2 referral centers with 228 patients failed to identify an association between weight or diabetes mellitus in patients with metastatic breast cancer.