

Clinical Breast Cancer

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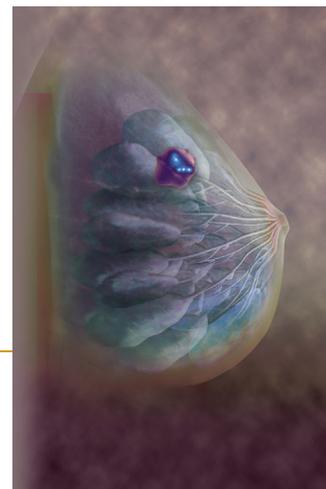


Illustration by Erin Moore

Original Studies

225 Germline Genetic Variants in GATA3 and Breast Cancer Treatment Outcomes in SWOG S8897 Trial and the Pathways Study

Victoria Larsen, William E. Barlow, Jun J. Yang, Qianqian Zhu, Song Liu, Marilyn L. Kwan, Isaac J. Ergas, Janise M. Roh, Laura F. Hutchins, Susan A. Kadlubar, Kathy S. Albain, James M. Rae, I-Tien Yeh, Peter M. Ravdin, Silvana Martino, Alan P. Lyss, C. Kent Osborne, Gabriel N. Hortobagyi, Lawrence H. Kushi, Daniel F. Hayes, Christine B. Ambrosone, Song Yao

In an ancillary study to a completed clinical trial, we identified *GATA3* genotypes predictive of survival after adjuvant chemotherapy, particularly among those subsequently treated with tamoxifen. Although the replication effort in a second cohort proved to be futile owing to substantial differences between the discovery and the replication cohorts, mechanistic exploration of the identified variants supported their functional significance.

236 ER⁺/HER2⁺ Breast Cancer Has Different Metastatic Patterns and Better Survival Than ER⁻/HER2⁺ Breast Cancer

Cletus A. Arciero, Yi Guo, Renjian Jiang, Madhusmita Behera, Ruth O'Regan, Limin Peng, Xiaoxian Li

This study examined the metastatic pattern and prognosis of both estrogen receptor-positive (ER⁺)/human epidermal growth factor receptor 2-positive (HER2⁺) and estrogen receptor-negative (ER⁻)/HER2⁺ breast cancer. A total of 54,147 patients with HER2⁺ breast cancer from the National Cancer Database and 31,946 patients with HER2⁺ breast cancer from the Surveillance, Epidemiology, and End Results database were examined. We found that patients with ER⁺/HER2⁺ and ER⁻/HER2⁺ breast cancers had different metastatic patterns, and ER⁻/HER2⁺ patients had worse prognosis.

246 Implementing a Population-Based Breast Cancer Risk Assessment Program

Erica Silver, Neil Wenger, Zhuoer Xie, David Elashoff, Kristina Lee, Lisa Madlensky, Jacqueline Trent, Antonia Petruse, Liliana Johansen, Arash Naeim

Challenges exist in implementing population-based cancer risk assessment programs and making appropriate referrals. We implemented a semiautomated mechanism to assess breast cancer risk and implement counseling. Among 20,558 women, 420 were identified as elevated risk using personal and family risk information with verification by genetic counselors. Population-based breast cancer screening and counseling is feasible but resource-intensive.

- 254 The Impact of Age and Adjuvant Chemotherapy Modifications on Survival Among Black Women With Breast Cancer**
Bethany D. Nugent, Dianxu Ren, Catherine M. Bender, Margaret Rosenzweig
 This study explored age as a moderator for the association between treatment modifications and survival in Black women with early stage breast cancer. The sample consisted of 115 Black women treated with adjuvant chemotherapy. Results indicate that older Black women with chemotherapy doses held experienced worse disease-free survival than those who did not.
- 259 Personalized Decision Making in Early Stage Breast Cancer: Applying Clinical Prediction Models for Anthracycline Cardiotoxicity and Breast Cancer Mortality Demonstrates Substantial Heterogeneity of Benefit-Harm Trade-off**
Jenica N. Upshaw, Robin Ruthazer, Kathy D. Miller, Susan K. Parsons, John K. Erban, Anne M. O'Neill, Binyam Demissei, George Sledge, Lynne Wagner, Bonnie Ky, David M. Kent
 Anthracycline chemotherapy can cause cardiotoxicity. We derived a multivariable risk prediction model to predict anthracycline cardiotoxicity in 967 participants with human epidermal growth factor receptor 2-negative breast cancer with close cardiac monitoring. We identified a subset of patients at high risk of cardiotoxicity but low predicted benefit from anthracyclines. Multivariable risk models can be used to generate patient-specific estimates of both benefits and harms with specific cancer regimens and with additional model validation and updating, use of these models may improve the shared decision-making process.
- 268 Efficacy and Safety of Ribociclib With Letrozole in US Patients Enrolled in the MONALEESA-2 Study**
Denise A. Yardley, Lowell Hart, Anne Favret, Sibel Blau, Sami Diab, Donald Richards, Joseph Sparano, J. Thad Beck, Paul Richards, Patrick Ward, Bhuvaneswari Ramaswamy, Michaela Tsai, Kimberly Blackwell, Timothy Pluard, Sara M. Tolaney, Francisco J. Esteva, Cristina I. Truica, Carlos Alemany, Gena Volas-Redd, Mikhail Shtivelband, Das Purkayastha, Anand A. Dalal, Michelle Miller, Gabriel N. Hortobagyi
 Endocrine therapy is standard care for postmenopausal women with hormone receptor-positive (HR⁺)/HER2⁻ advanced breast cancer (ABC). A Mammary Oncology Assessment of LEE011's (Ribociclib's) Efficacy and Safety (MONALEESA-2) study subset of postmenopausal women with HR⁺/HER2⁻ ABC without previous treatment for advanced disease were randomized to ribociclib/letrozole or placebo/letrozole. Improved progression-free survival was observed in patients treated with first-line ribociclib/letrozole versus placebo/letrozole, consistent with the global population. These results suggest ribociclib/letrozole is safe and effective in this patient population.
- 278 The Loss of Lymph Node Metastases After Neoadjuvant Chemotherapy in Patients With Cytology-proven Axillary Node-positive Primary Breast Cancer**
Maki Namura, Hiroko Tsunoda, Daiki Kobayashi, Katsutoshi Enokido, Atsushi Yoshida, Tadashi Watanabe, Koyu Suzuki, Seigo Nakamura, Hideko Yamauchi, Naoki Hayashi
 Axillary lymph node dissection after neoadjuvant chemotherapy still remains a standard treatment of patients with breast cancer with LN metastases before neoadjuvant chemotherapy. Our results showed that 3 or more residual lymph node metastases after NAC were rare in patients with LN metastases before neoadjuvant chemotherapy with estrogen receptor-negative/human epidermal growth factor receptor 2-positive or estrogen receptor-negative/human epidermal growth factor receptor 2-negative tumors who were assessed as clinically lymph node-negative after neoadjuvant chemotherapy by ultrasonography. It indicated that no complete axillary lymph node dissection might be needed for these populations.
- 286 Isolated Tumor Cells in Sentinel Lymph Nodes of Primary Invasive Breast Carcinoma: A Cohort Analysis**
Gillian C. Bethune, Manolhas A. Karkada, Ryan DeCoste, Penny J. Barnes, Daniel Rayson
 The finding of isolated tumor cells (ITCs) in lymph nodes from resected early stage breast cancer has been found to have limited prognostic relevance. We examined 2 different strategies for ITC detection among cohorts of 250 patients over 2 different time intervals (2010-2011 and 2015-2016). There were significantly fewer cases of ITC observed over the latter time period during which selective, as opposed to reflex cytokeratin staining, was used ($P < .02$). This observation resulted in cost savings to the pathology laboratory and did not affect adjuvant treatment decision-making.

292 Patterns of Care and Efficacy of Chemotherapy and Radiotherapy in Skin-Involved Breast Cancers of All Sizes

Alina M. Mateo, Anna M. Mazor, Lyudmila DeMora, Elin R. Sigurdson, Elizabeth A. Handorf, John M. Daly, Allison A. Aggon, Elias Obeid, Shelly B. Hayes, Richard J. Bleicher

A retrospective review of skin-involved (SI) breast cancers of all sizes was performed using the National Cancer Data Base. Systemic therapy and radiotherapy demonstrated efficacy, but variability in their application for SI and non-SI cancers.

304 Features Associated With Long-Term Survival in Patients With Metastatic Breast Cancer

Natalie Klar, Margaret Rosenzweig, Brenda Diergaarde, Adam Brufsky

Of women diagnosed with metastatic breast cancer (MBC), 20% to 30% survive ≥ 5 years. We identified clinicopathologic and socioeconomic features associated with MBC survival. Diagnosis of de novo MBC, premenopausal status, estrogen receptor-positive status, and HER2-positive status were positively associated whereas triple-negative status, brain metastases, and visceral with bone metastases were inversely associated with long-term survival in our study population.

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e495 Adjuvant Treatment of Triple-Negative Metaplastic Breast Cancer With Weekly Paclitaxel and Platinum Chemotherapy: Retrospective Case Review From a Single Institution

Natalie W. Harper, Kurt B. Hodges, Rachel L. Stewart, Jianrong Wu, Bin Huang, Kathleen L. O'Connor, Edward H. Romond

e501 The HERBA Study: A Retrospective Multi-Institutional Italian Study on Patients With Brain Metastases From HER2-Positive Breast Cancer

Stefania Gori, Fabio Puglisi, Stefano Moroso, Alessandra Fabi, Nicla La Verde, Antonio Frassoldati, Emiliana Tarenzi, Ornella Garrone, Patrizia Vici, Lucio Laudadio, Elisabetta Cretella, Monica Turazza, Jennifer Foglietta, Vita Leonardi, Luigi Cavanna, Sandro Barni, Daniele Galanti, Antonio Russo, Fabiana Marchetti, Matteo Valerio, Gianluigi Lunardi, Filippo Alongi, Alessandro Inno

In this retrospective, multi-institutional study, we collected data of 154 HER2-positive breast cancer patients diagnosed with brain metastases from 2005 to 2014 with the aim to assess the impact of local and systemic treatments on the outcome. We report better survival for patients receiving surgery or stereotactic radiosurgery as local treatment and for those receiving HER2-targeted therapy as systemic treatment.

e511 Validation of Self-Reported Anthropometric Measures and Body Mass Index in a Subcohort of the DianaWeb Population Study

Milena Villarini, Mattia Acito, Vincenza Gianfredi, Franco Berrino, Giuliana Gargano, Matteo Somaini, Daniele Nucci, Massimo Moretti, Anna Villarini

We evaluated the validity of self-reported anthropometric measures in 200 women of approximately 1000 participating the DianaWeb study, a community-based participatory research offered to Italian breast cancer patients. Self-reported height, weight, and body mass index resulted to be satisfactorily accurate, and self-reported weight, height, and waist circumference were appropriate to estimate overweight/obese and central obesity in participants of the DianaWeb study.

e519 Palbociclib or Ribociclib in First-Line Treatment in Patients With Hormone Receptor–Positive/Human Epidermal Receptor 2–Negative Advanced or Metastatic Breast Cancer? A Perspective Based on Pharmacologic Costs

Jacopo Giuliani, Andrea Bonetti

e522 Low Plasma IL-8 Levels During Chemotherapy Are Predictive of Excellent Long-Term Survival in Metastatic Breast Cancer

Leena Tiainen, Mari Hämäläinen, Tiina Luukkaala, Minna Tanner, Outi Lahdenperä, Pia Vihinen, Arja Jukkola, Peeter Karihtala, Eeva Moilanen, Pirkko-Liisa Kellokumpu-Lehtinen

Plasma interleukin (IL)-8 levels were monitored in 58 patients with metastatic breast cancer before and during first-line chemotherapy, and changes in the IL-8 levels were correlated with patient survival data. Monitoring plasma IL-8 levels before and during chemotherapy identifies patients with excellent prognosis whose IL-8 levels stay constantly below 16.6 pg/mL.

e534 Nipple Discharge After Nipple-Sparing Mastectomy With and Without Associated Pregnancy

Rong Tang, Bridget N. Kelly, Barbara L. Smith, Conor R. Lanahan, Carson L. Brown, Michele A. Gadd, Kevin S. Hughes, Tawakalitu O. Oseni, Caroline McGugin, Michelle C. Specht, Suzanne B. Coopey

Despite extensive subareolar tissue resection, 22% of women who became pregnant after nipple-sparing mastectomy (NSM) experienced postpartum multiduct nipple discharge. Spontaneous and watery discharge occurred in 0.25% of nonpregnant NSM patients. Discharge resolved without intervention in all patients. No infections or local-regional recurrences occurred in patients with discharge.

e540 Long-Term Follow-up of Immediate Latissimus Dorsi Flap Reconstruction After Neoadjuvant Chemotherapy and Radiotherapy for Invasive Breast Cancer

Hugo Gornes, Bastien Cabarrou, Eva Jouve, Camille Franchet, Hélène Charitansky, Florence Dalenc, Carole Massabeau, Dimitri Gangloff, Marc Soulé-Tholy, Thomas Méresse, Benoit Chaput, Elodie Chantalat, Charlotte Vaysse

We present a monocentric retrospective study in which we evaluated the therapeutic sequence including mastectomy with immediate breast reconstruction using latissimus dorsi flap after chemotherapy and radiotherapy. With a median follow-up of more than 5 years, our study suggests it possible to envisage the realization of this "inverted sequence" in the patients who wish it after discussion in a multidisciplinary team meeting.

e547 Impact of Implementing B-RST™ to Screen for Hereditary Breast and Ovarian Cancer on Risk Perception and Genetic Counseling Uptake Among Women in an Academic Safety Net Hospital

Karen Wernke, Cecelia Bellcross, Sheryl Gabram, Nadia Ali, Christine Stanislaw

This study measures change in risk perception following use of the Breast Cancer Genetics Referral Screening Tool (B-RST™). Risk perception for 126 women was assessed prior to and immediately after administration of B-RST™. B-RST™ has a significant impact on cancer risk perception and, consequently, the level of interest in genetic counseling. Low appointment adherence shows a need to further assess barriers to genetic counseling.

e556 The Impact of Vaginal Laser Treatment for Genitourinary Syndrome of Menopause in Breast Cancer Survivors: A Systematic Review and Meta-analysis

Swati Jha, Lynda Wyld, Priyanka H. Krishnaswamy

Vaginal laser is effective in treating genitourinary syndrome of menopause in survivors of breast cancer. There is an improvement in vaginal health index and Visual Analogue Scale Score for dyspareunia and vaginal dryness. Sexual function is improved following treatment. Side effects were infrequent and of mild severity.