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At the 47th Annual San Antonio Breast Cancer Symposium (SABCS) held December 10-13, 2024, over 10,000 clinicians, researchers, and patient advocates gathered in San Antonio, Texas. They shared insights and efforts to refine treatments, enhance patient outcomes, and move closer to preventing and curing breast cancer.

The SABCS highlighted a year of major progress in breast cancer research, focusing on personalized medicine and new technologies. The event showcased advancements in understanding the genetic and molecular aspects of breast cancer, leading to more customized and effective treatments. Key discussions included the use of artificial intelligence, liquid biopsies, and immunotherapy, all of which have the potential to significantly improve patient care. While there are still challenges, like selecting the right patients for certain treatments, and testing and confirming that new medical tests or devices work accurately and reliably, the symposium was optimistic about the future. The collaborative efforts and shared knowledge from this event are expected to drive future research and clinical practices, bringing new hope to patients around the world.

At the end of every SABCS, there two sessions that everyone looks forward to. The first is titled, **“The Year in Review,”** in which experts summarized the most important findings from journals and conference presentations from the year. The second is the **“View from the Trenches, What to Do on Monday Morning,”** where panelists share their thoughts on bringing what they heard at the SABCS to the patients in their clinics.

The Year in Review

<https://www.sabcsmeetingnews.org/year-in-review-session-summarizes-important-breast-cancer-takeaways-from-2024/>

Basic Science

Dr. Neil Vasani, a professor at Columbia University, talked about new findings in breast cancer research. He explained that it's been tough to understand certain genetic changes in cancer due to technical challenges. However, recent studies show that these changes might increase with age and affect cancer traits. Dr. Vasani highlighted research by Dr. Christina Curtis, Stanford University, which found that certain genetic traits might protect against cancer early on but could lead to worse outcomes if cancer develops. This research could impact how we use biomarkers and develop vaccines to prevent breast cancer. Additionally, Dr. Vasani discussed resistance to certain cancer drugs, noting that patients with specific genetic mutations respond poorly to these treatments. He suggested that identifying these mutations could help doctors choose better treatment combinations for patients.

"This is a really interesting study. It's very provocative, and I think [it] really changes how we think about germline-somatic interactions," he said. "There are a lot of implications here, I think, in terms of biomarkers and also [for] vaccine strategies against some of these very peptides to prevent breast cancer."—Neil Vasani,

Translational Science

Dr. Pedram Razavi from Memorial Sloan Kettering Cancer Center talked about advancements in liquid biopsy and artificial intelligence (AI) in cancer research. Liquid biopsy is a blood test used to analyze Tumor DNA, especially in advanced cancer cases,

to see how well treatments are working. Researchers are working on making these tests more sensitive to detect cancer earlier. Dr. Razavi emphasized the importance of collecting blood samples before and after treatment to improve research. Artificial intelligence is being used to make these tests more accurate by reducing errors and helping identify cancer signs. AI models are also being used to help doctors analyze large amounts of patient data, making it easier for smaller research centers to access and use this information.

"The use of these foundational models and democratizing them empowers many of the smaller centers," Dr. Razavi noted. "Analysis of this large data is already transforming translational research and is here to stay [through incorporation of] the large language models into our EMRs (Electronic Medical Records)."—Pedram Razavi, MD, PhD

Early-Stage Breast Cancer

Dr. Janice Tsang from The University of Hong Kong discussed recent advancements in breast cancer treatment, particularly focusing on immunotherapy. In 2024, there has been growing confidence in using immunotherapy, which might allow some patients with early-stage breast cancer to avoid chemotherapy. A study called KEYNOTE-522 showed that adding the immunotherapy drug pembrolizumab to chemotherapy improved survival rates for some patients, but not everyone benefited, and there are concerns about side effects and costs. Other studies, like A-BRAVE, suggested that immunotherapy alone might

The Year in Review

continued

not be enough for high-risk patients, who might need a combination of treatments. In trials like I-SPY 2.2, some patients could skip traditional chemotherapy by using new drugs like datopotamab deruxtecan (Dato-DXd) and still achieve good results. Dr. Tsang also mentioned that certain new treatments might replace traditional chemotherapy in the future, and ongoing research is looking into using blood tests to better tailor treatments for patients.

“The value of adjuvant [immunotherapy], especially pembrolizumab, I think is still not clear; especially, it’s not without immune-related toxicities and financial toxicities.” –Janice Tsang, MBBS, MRCP, FRCP

Metastatic Disease

Dr. Michael A. Danso from Virginia Oncology Associates discussed advancements in treating metastatic breast cancer. He highlighted that adding CDK4/6 inhibitors to endocrine therapy can double the time patients live without their disease worsening. However, while this combination is effective for those with severe disease, it may not be necessary for all patients, especially older ones with fewer symptoms,

who might do well with just endocrine therapy. New treatments like inavolisib have been approved for specific genetic mutations, and testing for these mutations is crucial to guide treatment choices. Dr. Danso also mentioned ongoing research into new drug combinations that could offer alternative options for patients whose cancer resists standard treatments. Additionally, a new potential standard of care involves adding palbociclib to existing therapies for certain types of breast cancer, though real-world practices often use a lower dose, and its effectiveness at this dose is still being studied.

“In the real world, in elderly patients with comorbidities and a low burden of disease, it is very reasonable to consider single-agent endocrine therapy as first-line therapy.” –Michael A, Danso

Overall, these discussions reflect a year of significant progress in understanding and treating breast cancer, with a focus on personalized medicine and the integration of new technologies. □

View from the Trenches, What to Do on Monday Morning

<https://www.sabcsmeetingnews.org/view-from-the-trenches-panelists-share-thoughts-on-translating-sabcs-presentations-into-practice/>

Role of immunotherapy after surgery in patients with stage II/III TNBC

Triple-negative breast cancer (TNBC) is a type of breast cancer that can be quite aggressive. For patients with early-stage TNBC, doctors often use a combination of chemotherapy and immunotherapy (a treatment that helps the immune system fight cancer) before surgery. This is called neoadjuvant therapy and is now a common approach.

However, some patients might have surgery first without getting this combination treatment beforehand. In these cases, doctors are exploring whether giving immunotherapy after surgery (known as adjuvant therapy) could be beneficial. One such immunotherapy drug being considered is pembrolizumab.

Dr. Joyce O'Shaughnessy, Chair of Breast Cancer Prevention Research at Baylor Scott & White Charles A. Sammons Cancer Center, and other experts have looked at various studies to understand if adjuvant pembrolizumab is helpful for these patients. They found that there are still some challenges, like side effects from the immunotherapy and not having enough information to know which patients would benefit the most. Because of these issues, using pembrolizumab after surgery isn't a standard practice yet for those who didn't receive it before surgery.

Potential anthracycline benefit in HR-positive, HER2-negative early-stage disease

There are some studies that aren't as

strictly controlled, like the TAILORx trial and the FLEX trial, which were discussed at the SABCS this year. These studies might help doctors figure out if adding a type of chemotherapy drug called anthracycline can help certain groups of patients with a specific type of early-stage breast cancer. This type of cancer is hormone receptor-positive (ER+) and doesn't have too much of a protein called HER2.

Even though these studies aren't the most rigorous, Dr. Christina Saura, Head of the Breast Cancer Unit of the Service of Medical Oncology of Vall d'Hebron University Hospital, mentioned she might use anthracycline for patients who are at high risk. To figure out who is at high risk, she often uses a test called Oncotype DX in her practice in Europe.

Dr. O'Shaughnessy mentioned that she uses another test called the 70-gene MammaPrint test for patients who are in a "grey zone," meaning it's not clear if anthracycline would be beneficial for them.

Dr. Antonio Wolff, Professor of Oncology at the Johns Hopkins Sidney Kimmel Comprehensive Cancer Center, highlighted a new study called SWOG S2206, which might help determine if anthracycline is useful for patients who are at an extremely high risk, as identified by the MammaPrint test.

Treatment for BRCA-mutated high-risk HER2-negative disease

Recent long-term data from a study called OlympiA, shared at SABCS, confirmed earlier results showing that taking the drug

View from the Trenches, What to Do on Monday Morning

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olaparib for a year can help reduce the return of invasive cancer or death in patients with early-stage breast cancer who have specific BRCA1/2 gene mutations and are HER2-negative.

Dr. O'Shaughnessy asked experts about their preferred treatment plans for these patients. The options were: 1) using only olaparib, 2) using olaparib along with other treatments like CDK4/6 inhibitors for certain high-risk patients or pembrolizumab and capecitabine for those with triple-negative breast cancer (TNBC), or 3) trying other treatments before olaparib. Most people favored the second option.

Drs. Wolff and Saura mentioned that there isn't much data to guide these choices.

For patients at very high risk, experts suggested considering CDK4/6 inhibitors after surgery and before olaparib, or combining olaparib with pembrolizumab. However, they admitted these decisions are tough without strong evidence.

Dr. Atif J. Khan, Attending Physician and Radiation Oncologist at Memorial Sloan Kettering Cancer Center, warned against using olaparib and radiotherapy together due to potential side effects, but noted that using radiotherapy with pembrolizumab doesn't have the same concerns.

Impact of obesity on early-stage breast cancer prognosis

The Symposium included presentations on how obesity can affect the outcomes for patients with early-stage breast cancer.

They also discussed different ways to help patients lose weight.

Dr. O'Shaughnessy asked the panel members if using certain medications or other weight-loss methods would be good for patients with high-risk early-stage breast cancer.

Stacey Tinianov, Patient Advocate and Executive Director of Advocates for Collaborative Education, responded by saying that while body mass index (BMI) isn't a perfect measure, exercise is very important. She encouraged doctors to talk to their patients about the benefits of exercise, even if it seems obvious. She also mentioned that patients with severe obesity often have more side effects from chemotherapy, so it's important to have these discussions.

Additionally, she highlighted the importance of having support systems, like survivorship clinics, to help patients with exercise and mental health, which can lead to healthier lifestyle changes.

Lessons from the ZEST study of minimal residual disease

Dr. Saura discussed the ZEST study, and concluded that while the study itself did not show positive results, she still thinks using minimal residual disease (MRD) to guide treatment is a good idea. The study showed that it's important to carefully choose which patients to include in these kinds of studies and to make sure the MRD tests, which look for circulating tumor DNA in the blood (ctDNA), are reliable and consistent. The

View from the Trenches, What to Do on Monday Morning

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experts agreed that checking for tumor DNA in the blood of patients who don't have symptoms shouldn't be done unless it's part of a clinical trial.

'Right-sizing' surgery for breast cancer

Dr. Alistair Thompson, Professor and Chief of the Section of Breast Surgery at Baylor College of Medicine, talked about the best ways to do surgery for breast cancer. He looked at two big studies that had different results about whether having a preventive mastectomy (removing the breast to lower cancer risk) helps people live longer. He said we need to combine data from these big studies to really understand if these surgeries improve survival.

The panel also discussed whether it's better to just watch and wait instead of doing surgery for people with low-risk ductal carcinoma in situ (DCIS), a type of early breast cancer. Dr. Thompson mentioned that some of his patients with low-risk DCIS choose to be monitored closely instead of having surgery, at least for the first couple of years.

Dr. Thompson also mentioned that new guidelines from the American Society of Clinical Oncology about managing the lymph nodes in breast cancer are coming soon. These guidelines will talk about doing less surgery in some cases, based on findings from a study called INSEMA.

Improving the effectiveness of radiation therapy

Dr. Khan talked about the results from combining data from two studies on a type

of early breast cancer called "good risk" DCIS. He wondered if these results mean doctors should use hormone therapy more often and skip radiation treatment for these patients. Dr. Khan plans to change how he talks to patients, suggesting hormone therapy more strongly, especially if they're thinking about not having radiation.

Ms. Tinianov suggested calling it "low risk" instead of "good risk" DCIS. She mentioned that when doctors talk about hormone therapy, they often use terms that can be scary for patients who aren't familiar with them. She advised doctors to explain the actual risk numbers to make it clearer.

Another study, called SUPREMO, found no difference in outcomes for patients with intermediate-risk breast cancer who had radiation after a mastectomy. But Dr. Khan pointed out that, with current medical practices, patients who have had a mastectomy and have cancer spread to certain lymph nodes still need more extensive surgery or radiation.

Practice implications of evolving data in the metastatic setting

Dr. O'Shaughnessy talked about the important findings from the EMBER-3 trial at a 2024 breast cancer conference. She asked if doctors should use a drug called imlunestrant alone for patients with specific ESR1 mutations, and in combination with another drug, abemaciclib, for all patients. Most people in the audience agreed with these ideas.

Another study, AFT-38 PATINA, showed

View from the Trenches, What to Do on Monday Morning

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that adding a drug called palbociclib to existing treatments for a type of advanced breast cancer helped patients live longer without the disease getting worse. Dr. O'Shaughnessy said this study could change how doctors treat patients right away and asked if they Ms. would start using palbociclib as a regular part of treatment. Most experts agreed, but Ms. Tinianov reminded them to talk to patients about possible side effects like severe diarrhea.

Dr. O'Shaughnessy also asked Ms. Tinianov about a study called PRO-B, which used a system where patients report their own health outcomes. Tinianov found the study interesting and emphasized the

importance of patients feeling connected and supported, saying it can save lives. She suggested that doctors look at similar studies in lung cancer by Dr. Ethan Basch, which showed similar results. ☐

If you would like more information on this session:

<https://www.sabcsmeetingnews.org/general-session-3-includes-results-from-zest-study-analysis-from-tailorx-trial/>

<https://www.sabcsmeetingnews.org/experts-review-approaches-to-reducing-obesity-related-risk-for-breast-cancer/>

Over the past year, there have been many advancements in breast cancer research, covering everything from new ways to identify the disease to innovative treatment combinations. To read more about what was presented this year at the SABCS visit:

<https://www.sabcsmeetingnews.org/category/2024/>

Note: If you would like additional information from a presentation, a study or an abstract, send me the title (and date it was presented) of what you're interested in, and I'll get it to you. You can reach me at:

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