Highlights from the 2018 Joining FORCEs Against Hereditary Cancer Conference

Hereditary metastatic breast cancer treatment
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Metastatic breast cancer spreads beyond the breast to other places in the body. The pattern of spread may be different depending on the breast cancer subtype.

Breast cancer can be ER/PR positive, HER2 positive, or triple negative (ER,PR, and HER2 negative). ER/PR positive means that it is responsive to estrogen and progesterone and that it can be treated with medications that block those hormones. HER2-positive breast cancer can be treated with HER2-targeted medications. Ongoing research is exploring the best treatment methods for triple-negative breast cancer, but the current standard is chemotherapy.

Breast cancers occurring among BRCA1 carriers are more frequently ER/PR/HER2-negative or triple negative while breast cancers among BRCA2 carriers tend to be ER/PR-positive.

General treatment principles for metastatic breast cancer are:
- breast cancer subtype matters
- the goal is to control and treat breast cancer
- quality of life is very important when choosing treatments
- endocrine therapy and combinations with other agents can be used for ER/PR+ breast cancer, and single-agent chemotherapy is usually recommended.

Genomic and genetic testing

Tumor testing (genomic testing) and blood/saliva testing (genetic testing) are used to answer different questions about the cancer.

Tumor testing looks for the next best precise treatment that a health care provider can offer.

Blood/saliva testing, which determines whether or not an individual has a mutation that increased breast cancer risk, focuses on preventing cancer. Blood/saliva testing can also demonstrate an individual’s personal risk of other cancers, as well as cancer risks of other family members. It can also sometimes guide treatment for metastatic breast cancer.
The genetic testing landscape has changed considerably over the years, so if a person’s genetic testing was completed many years ago, it may be worth checking with a genetic counselor to see if additional genetic testing is warranted.

**Clinical trials**

Clinical trials work to find new ways to treat cancer. Today’s standard treatments evolved from past clinical trials.

- A phase I clinical trial looks for more precise therapies that can help influence much larger clinical trials, and it studies the safety of a drug or treatment for humans.
- Phase II clinical trials assess whether a specific drug or treatment does or does not work against the type of cancer that is being studied.
- Randomized, controlled and larger phase III trials compare a new treatment that has worked well in a phase II clinical trial with the standard treatment; these trials inform the standard of care.
- Phase IV trials, which do not enroll patients, are completed after FDA approval.

Participation in a clinical trial has many benefits. Participants potentially benefit from a novel investigational treatment, while they also help to improve upon current standard treatments and benefit future patients. Individuals in clinical trials have access to high-quality clinical care with medical teams and close monitoring.

Clinical trials can and should be considered for participation when there is a change in treatment. They are windows of opportunity that are constantly opening and closing. Even if you choose not to pursue a clinical trial, standard treatment options are always available. If you pursue a clinical trial for which you are eligible, many rigorous steps, such as different screening processes, must take place before you can begin treatment. These steps protect your rights and safety as a participant.

If you are interested in finding a clinical trial, talk to your oncologist about trials for which you may be eligible for participation. You may have access through a referral to local trials at your healthcare institution or other academic centers. You can also obtain a second opinion at an academic center to learn about trials that may be of benefit. Finally, you can find clinical trials by accessing clinicaltrials.gov, NCI, ASCO, and SHARE. However, any resources you pursue should be in partnership with your health care provider to determine the best option for you and if you are eligible for participation.

**Clinical trial updates**

- In the TNT study, BRCA1/2 mutation carriers had a greater response rate with carboplatin vs docetazol.
- The OlympiAD trial found that olaparib delayed progression by 3 months compared to standard chemotherapy; the FDA subsequently approved olaparib for germline BRCA mutations.
• The EMBRCA trial showed that talazoparib delayed progression by 3 months compared to standard chemotherapy and resulted in FDA approval of this drug for germline BRCA mutation carriers and HER2-negative, locally advanced or metastatic breast cancer.

**Treatment of hereditary metastatic breast cancer**

Impressive progress has been made and continues to evolve for treating hereditary metastatic breast cancer. Clinical trials are contributing to the discovery of new treatments, new biomarkers (which can be used to determine which patients will respond best to a given treatment), and the potential use of liquid biopsies to provide answers to treatment-related questions.

Treatments are available based on tumor subtype. BRCA1/2 mutation carriers have the option of platinum-based chemotherapy or PARP inhibitors. Self-advocacy is important, and individuals should obtain second opinions.