Breast Cancer Research Review™

Making Education Easy

Issue 61 - 2024

In this issue:

Abbreviations used in this issue:

CR = complete response; **CTC** = circulating tumour cell; **HER** = human epidermal growth factor receptor; **KPI** = key performance indicator; **OR** = odds ratio; **OS** = overall survival; **PD-1/PD-L1** = programmed cell death (ligand)-1; **PFS** = progression-free survival; **TIL** = tumour-infiltrating lymphocyte; **TNBC** = triple-negative breast cancer.

Welcome to issue 61 of Breast Cancer Research Review.

We begin this issue with the phase 3 placebo-controlled TORCHLIGHT trial of adding first-line toripalimab to nab-paclitaxel in women with metastatic or recurrent TNBC. There is also a paper evaluating the feasibility of monitoring the status of breast cancer control across the 21 countries that comprise the ANCCA (Asian National Cancer Centers Alliance), based on KPIs from the GBCI (Global Breast Cancer Initiative) Framework. Other included research has highlighted the possible clinical benefits of molecular subtype-based treatment optimisation in patients with TNBC. We conclude this issue with a phase 2B trial reporting that among compression therapy, cryotherapy and placebo, compression was the most effective, and was well tolerated, for the prevention of taxane-induced peripheral neuropathy.

We hope you enjoy this breast cancer research update. We always appreciate all comments and feedback we receive.

Kind Regards,

Dr Hilary Martin
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Toripalimab plus nab-paclitaxel in metastatic or recurrent triple-negative breast cancer

Authors: Jiang Z et al.

Summary: Women with metastatic or recurrent TNBC were randomised to receive nab-paclitaxel with either toripalimab (n=353) or placebo (n=178) in the phase 3 TORCHLIGHT trial; 200 and 100 participants from the respective arms had PD-L1-positive disease. Compared with the placebo arm, the addition of toripalimab to nab-paclitaxel was associated with a significant improvement in median PFS duration at a prespecified interim analysis (primary endpoint; 8.4 vs. 5.6 months [p=0.0102]) and a longer median OS duration (32.8 vs. 19.5 months [p=0.0148]), with similar incidences of treatment-emergent adverse events (99.2% vs. 98.9%), grade ≥3 treatment-emergent adverse events (56.4% vs. 54.3%) and fatal adverse events (0.6% vs. 3.4%).

Comment: This study reports the interim analysis of the use of toripalimab, a humanised PD-1 antibody, in combination with nab-paclitaxel compared with nab-paclitaxel alone. For data analysis, PD-L1 testing was undertaken using the JS311 antibody assay, with a combined positive score of ≥1 considered positive. This assay was found to have 85% concordance with the 22C3 assay, which is the assay we now most commonly use for this population in Australia as the companion diagnostic test for pembrolizumab. As with pembrolizumab, the study found an improvement in PFS for PD-L1-positive patients, with median PFS duration of the toripalimab plus nab-paclitaxel arm of 8.4 months compared with 5.6 months in the placebo plus nab-paclitaxel arm. One potential weakness of the study is that the study was only undertaken in China, and hence there was limited diversity of ethnicity of the study population. Interestingly, the PFS for the placebo arm in this study was very similar to that seen in both Impassion131 (5.7 months), which investigated the use of atezolizumab, and KEYNOTE-355 (5.6 months), which investigated the use of pembrolizumab. The OS data are awaited. Should this be positive, this will be another agent that could be considered in this setting.

Reference: Nat Med 2024;30:249–56
Abstract

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A population-level digital histologic biomarker for enhanced prognosis of invasive breast cancer

Authors: Amgad M et al.

Summary: These authors described the HiPS (Histomic Prognostic Signature) for scoring the likelihood of survival according to breast tumour microenvironment morphology. For HiPS, deep learning was used to map cellular and tissue structures for the measurement of epithelial, stromal, immune and spatial interaction features. Population-level cohort data were used to develop HiPS, and it was validated with data from three independent cohorts that covered a range of solid malignancies. It was found that due largely to stromal and immune features, HiPS consistently outperformed pathologists for predicting survival outcomes, independent of tumour-node-metastasis stage and relevant variables.

Comment: Prognostic assessments for breast cancer have thus far focused on the tumour, both with the standard assessment of grade, size and nodal status, as well as the prognostic scoring systems using tumour gene expression, such as Oncotype Dx and Prosigna. However, there has been increasing understanding of the importance of the tumour microenvironment, which incorporates immune, epithelial, stromal and spatial features. This study examined HiPS, which assesses aspects of the tumour microenvironment. This prognostic signature was developed using data from the Cancer Prevention Study-II, and was subsequently validated on three independent cohorts, and was found to be superior to pathologists in predicting outcome. In this study, the researchers produced a HiPS risk score, which combines H&E stain results, and the ER, PR and HER2 panel using AI assessment, as well as assessment of the entire tumour microenvironment, and also combined analysis of ER, PR and HER2 panel with histological features. The prognostic score HiPS, which gives a score between 0 and 10, was developed using the 26 most prognostic histomic features found in analysis, along with ER, PR and HER2 expression status. Patients were then separated into H1 with scores of <3.6, H2 3.6–<6 and H3 ≥6. The researchers found that stromal and immune features of the tumour microenvironment were highly prognostic. The HiPS score was shown to correlate strongly with Oncotype Dx and MammaPrint. It should be noted that the prognostic signature score was not prognostic for patients with ER-negative or TNBC. However, for the other cohorts this is a promising signature. From a clinical perspective, it would be useful to assess whether the scoring system is able to be used to predict for outcome with therapy, and hence guide clinical decision making. For example, is this system able to predict for benefit or lack of benefit for chemotherapy for hormone receptor-positive breast cancer, or whether, for example, it may better predict for patients who require extension of endocrine therapy.

Reference: Nat Med 2024;30:85–97
Abstract

Feasibility of monitoring Global Breast Cancer Initiative Framework key performance indicators in 21 Asian National Cancer Centers Alliance member countries

Authors: Ong SK et al.

Summary: The feasibility of monitoring breast cancer control using three GBCI Framework KPIs, namely diagnostic stage, time to diagnosis and treatment completion, was evaluated across the 21 ANCCA countries. National cancer registry reports on age-standardised incidence and mortality rates for breast cancer were published by 57% of these countries, with Indonesia, Myanmar and Nepal having only provincial data and the others relying on estimates from the WHO's GLOBOCAN (Global Cancer Observatory). In Bhutan, Indonesia, Iran, the Republic of Korea, Singapore and Thailand, GLOBOCAN data differed from reported national statistics by 5–10%, whereas in China, India, Malaysia, Mongolia and Sri Lanka, they differed by >10%. Correlations were seen between the proportion of patients diagnosed with stage I or II disease and both 5-year survival and Universal Health Coverage Index. There were three countries that reported national data with >60% of invasive breast cancer patients diagnosed at stage I or II, and with a 5-year survival rate of >80%. No published national data on breast cancer staging and times from presentation to diagnosis and from diagnosis to treatment were provided by >60% of the ANCCA countries. Data on treatment completion were reported by five countries. There was also variation across countries regarding definitions of delayed diagnosis and treatment completion.

Comment: Breast cancer outcomes have improved substantially in high-income countries, but have not had the same level of improvement in low- and middle-income countries. The GBCI framework was established in 2023 to address this discrepancy, with three KPIs: i) diagnosing >60% of invasive breast cancers at stage I or II; ii) providing timely breast cancer diagnostics within 60 days of initial presentation; and iii) 80% of patients undergoing recommended multimodality treatment without abandonment. This study examined breast cancer data collection and ability to monitor breast cancer control data from 21 countries from the ANCCA: Bangladesh, Bhutan, Brunei, Cambodia, China, India, Indonesia, Iran, Japan, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Singapore, the Republic of Korea, Sri Lanka, Thailand and Vietnam. Just over half the countries published annual national registry reports. There was significant variation in breast cancer rates ranging from 5 per 100,000 women in Bhutan to 78 per 100,000 women in Singapore. Thirteen countries had regular breast cancer awareness campaigns and only eight had national level breast screening programs. For the first KPI, seven countries reported staging at diagnosis, and the KPI of diagnosis of >60% invasive cancer at stage I or II was met in Japan, the Republic of Korea and Singapore. For the second KPI, eight countries reported time from presentation to diagnosis. For KPI three, five countries reported data on treatment completion. Overall, the study found high income countries such as Singapore, as would be anticipated, were more able to record the required data and to meet the KPI requirements. Further work is required to improve breast cancer surveillance and control in many of the countries studied.

Reference: eClinicalMedicine 2024;67:102365
Abstract

Cost-effectiveness of population-based multigene testing for breast and ovarian cancer prevention

Authors: Guo F et al.

Summary: Lifetime incremental effectiveness, costs and cost-effectiveness of population-based multigene testing versus family history-based testing were evaluated by these researchers. Based on 1,000,000 simulated US women aged 30–35 years, population-based multigene testing was estimated to be more cost effective than family history-based testing, with an ICER (incremental cost-effectiveness ratio) of $55,548 per QALY (quality-adjusted life-year), and it would be able to prevent an additional 1338 cases of breast cancer and 663 cases of ovarian cancer, but would also result in 69 excess cases of coronary heart disease resulting in ten excess deaths per million women. Sensitivity analyses revealed a 100% probability that population-based multigene testing would be cost effective, but it would no longer remain cost effective if the cost of the test was ≥USD825.

Comment: This study of population-wide genetic screening contrasts with the preceding article, which highlighted the significantly poorer access and outcomes for low-income countries and inability to access easily current basic standard care and surveillance. This study undertook economic modelling of population-based *BCRA1*, *BRCA2* and *PALB2* testing for all women aged 30–35 years irrespective of family history. Modelling was undertaken based on a US population between Sept 2020 and Dec 2023. The model examined the ICER, using the reference of $100,000 per QALY for the threshold. Population-based testing was found to be more cost effective compared with family history based testing, and prevented an additional 1338 cases of breast cancer and 663 cases of ovarian cancer per 1,000,000 women, but also resulted in 69 additional cases of coronary heart disease and ten excess coronary heart disease deaths. The cost effectiveness did depend upon the cost of the test – where this exceeded $825 per test, it was deemed no longer cost effective. The modelling assumed a cost of $300. The results are promising for population-based genetic screening in this population. While at this stage, the testing is not funded in Australia for this level, and given the pressures on health budgets, it may well not be funded in the near future. However, should testing become less costly, this may well be a consideration. At this point, the data support potentially screening for those who are concerned regarding their breast cancer future risk and who wish to self-fund testing.

Reference: JAMA Netw Open 2024;7:e2356078
Abstract

Triple-Negative Breast Cancer (TNBC)

KEYTRUDA® (pembrolizumab)

PBS listed. Criteria apply, see www.pbs.gov.au

Please review full Product Information before prescribing, available at www.msdinfo.com.au/keytrudapi

SELECTED SAFETY INFORMATION

Precautions: Immune-mediated adverse reactions (ImARs), incl. severe and fatal cases, have occurred in patients receiving KEYTRUDA. These have included, but not limited to: pneumonitis, colitis, hepatitis, nephritis, endocrinopathies, severe skin reactions (Stevens-Johnson syndrome, toxic epidermal necrolysis and bullous pemphigoid), uveitis, myositis, Guillain-Barre syndrome, pancreatitis, encephalitis, sarcoidosis, myasthenic syndrome/myasthenia gravis (incl. exacerbation), myelitis, vasculitis, hypoparathyroidism, gastritis, myocarditis, pericarditis and pericardial effusion, peripheral neuropathy, sclerosing cholangitis, solid organ transplant rejection, and severe infusion reactions (hypersensitivity, anaphylaxis).[1]

ImARs have occurred after discontinuation of treatment with KEYTRUDA. ImARs can affect more than one body system simultaneously.[1]

Contraindications: None.[1]

Adverse events: In KEYNOTE-355, the most common adverse reactions [all grades, (≥20%)] in the KEYTRUDA + chemotherapy (paclitaxel, nab-paclitaxel, or gemcitabine and carboplatin) arm were fatigue (48%), nausea (44%), diarrhoea (28%), constipation (28%), vomiting (26%), alopecia (34%), rash (26%), cough (23%), decreased appetite (21%), and headache (20%). Refer to the Product Information for further safety information.[1]

In KEYNOTE-522, the most common adverse reactions [all grades (≥20%)] for those receiving KEYTRUDA in combination with chemotherapy (carboplatin and paclitaxel followed by doxorubicin or epirubicin and cyclophosphamide), given as a neoadjuvant treatment followed by surgery then continued alone as adjuvant treatment, weree fatigue (70%), pyrexia (28%), nausea (67%), constipation (42%) diarrhoea (41%), stomatitis (34%), vomiting (31%), abdominal pain (24%), alopecia (61%), rash (52%), peripheral neuropathy (41%), headache (30%), arthralgia (29%), myalgia (20%), cough (26%), decreased appetite (23%), and insomnia (21%). Refer to the Product Information for further safety information.[1]

CPS: combined positive score. **TNBC:** triple-negative breast cancer.

References: 1. KEYTRUDA Product Information, www.msdinfo.com.au/keytrudapi. **2.** Australian Government, Department of Health and Aged Care, The Pharmaceutical Benefits Scheme. Available at www.pbs.gov.au. Accessed January 2024

Optimising first-line subtyping-based therapy in triple-negative breast cancer (FUTURE-SUPER)

Authors: Fan L et al.

Summary: The phase 2 FUTURE-SUPER trial stratified women aged 18–70 years with treatment-naïve metastatic or recurrent TNBC (Eastern Cooperative Oncology Group performance status 0–1) according to molecular subtype and genomic biomarkers and randomised them to receive 28-day cycles of intravenous nab-paclitaxel 100 mg/m^2 on days 1, 8 and 15 with (n=69) or without (n=70) a subtyping-based regimen of: i) oral pyrotinib 400 mg/day for the *LAR-HER2*-mutated subtype; ii) oral everolimus 10 mg/day for the *LAR-PI3K/AKT*-mutated and *MES-PI3K/AKT*-mutated subtypes; iii) intravenous camrelizumab 200mg on days 1 and 15 and oral famitinib 20 mg/day for the immunomodulatory subtype; or iv) intravenous bevacizumab 10 mg/kg on days 1 and 15 for the *BLIS/MES-PI3K/AKT* wild-type subtype. Median follow-up was 22.5 months. Compared with nab-paclitaxel alone (control), participants assigned to the subtyping-based groups collectively had a longer median PFS duration (primary endpoint; 11.3 vs. 5.8 months [p<0.0001]). The most frequently occurring grade 3–4 treatment-related adverse events were neutropenia (30% and 23% in the respective subtyping-based and control arms), anaemia (7% and 0%) and increased alanine aminotransferase level (6% and 1%), and the respective incidences of treatment-related serious adverse events were 10% and 0%. There were no treatment-related deaths.

Comment: TNBC remains the cohort of patients with the poorest outcomes amongst the metastatic breast cancer population. TNBC is a heterogenous group with various subtypes. In this single-centre phase 2 randomised controlled trial, patients were randomised either to nab-paclitaxel alone (control group) or to the subtyping-based group where pyrotinib was given to the *LAR-HER2*-mutant subtype, everolimus was given to the *LAR-PI3K/AKT*-mutant and mesenchymal like-*PI3K/AKT*-mutant subtypes, camrelizumab and famitinib for the immunomodulatory subtype and bevacizumab for the basal-like immune suppressed/mesenchymal-like *PI3K/AKT* wild-type subtype. The median PFS was almost doubled in the pooled subtyping-based group compared with the control group at 11.3 vs. 5.8 months. A phase 3 study is currently recruiting. These data do appear promising for the use of targeted therapy for TNBC. It is worth noting that at this point, most of the agents used in the intervention arm of this study are not available via the PBS for TNBC in Australia.

Reference: Lancet Oncol 2024;25:184–97
Abstract

Atezolizumab in combination with carboplatin and survival outcomes in patients with metastatic triple-negative breast cancer

Authors: Lehmann BD et al.

Summary: Patients with metastatic TNBC were randomised to receive carboplatin (area under the curve 6) with (n=56) or without (n=50) atezolizumab 1200mg every 3 weeks until disease progression or unacceptable toxic effects, and were followed for 3 years, in this phase 2 trial. Compared with carboplatin alone, the addition of atezolizumab was associated with improvements in median PFS duration (primary endpoint; 4.1 vs. 2.2 months), overall response rate (30.4% vs. 8.0%), 6-month clinical benefit rate (37.5% vs. 18.0%) and median OS duration (12.6 vs. 8.6 months). In subgroup analyses, participants with PD-L1-positive tumours did not derive a survival benefit from the addition of atezolizumab, but those with high TILs, those with a high mutational burden and prior chemotherapy recipients did. Obese participants and those with >125 mg/dL on-treatment blood glucose levels had better PFS with combination therapy. With the exception of the luminal androgen receptor subtype, TNBC subtypes benefited from the addition of atezolizumab.

Comment: This study examined the use of atezolizumab plus carboplatin compared with carboplatin alone as either first-line metastatic treatment or second-line for TNBC. The majority of patients enrolled had received prior chemotherapy with 32% of the patients having received prior chemotherapy in the metastatic setting. Median PFS was significantly longer in the atezolizumab plus carboplatin arm compared with carboplatin alone, at 4.1 months compared with 2.2 months. It should be noted that this is very short median PFS timing. Median OS was also longer in the carboplatin plus atezolizumab arm at 12.6 months compared with 8.6 months. No additional benefit was found for PD-L1-positive patients compared with the entire intent-to-treat arm. Pretreatment TIL level was associated with improved survival.

Reference: JAMA Oncol 2024;10:193–201
Abstract

Clinical and biomarker findings of neoadjuvant pembrolizumab and carboplatin plus docetaxel in triple-negative breast cancer

Authors: Sharma P et al.

Summary: The open-label phase 2 NeoPACT trial enrolled 115 women with stage I–III TNBC (39% node-positive) and treated them with six cycles of neoadjuvant carboplatin (area under the curve 6) and docetaxel 72 mg/m^2 plus pembrolizumab 200mg every 21 days; the participants also received myeloid growth factor support. The pathological CR with this regimen was 58%, and the residual cancer burden 0+1 rate was 69%. Predictors of pathological CR were stromal TILs, PD-L1, 44-gene DNA damage immune response and tumour immune microenvironment. The estimated 3-year EFS rate for all participants was 86%, with rates of 98% and 68% for those who did and did not achieve a pathological CR, respectively. The incidence of grade ≥3 immune-mediated adverse events was 3.5%.

Comment: Neoadjuvant pembrolizumab in combination with carboplatin plus paclitaxel followed by doxorubicin plus cyclophosphamide has been shown to improve outcomes for TNBC. Anthracyclines have additional risks in terms of cardiotoxicity as well as secondary malignancy. This study examined the efficacy of the anthracycline-free carboplatin plus docetaxel regimen, along with pembrolizumab. This study used the 10% or less ER and PR staining to define negativity for these markers, rather than following the ASCO guidelines of <1%, along with standard guidelines for HER2 negativity, which was used in the registration neoadjuvant pembrolizumab study KEYNOTE-522. Ultimately 16% of the study population had ER and/or PR status from 1–10%. Pathological CR rates were 58% overall, and were similar between the ER/PR <1% arm and the ER/PR 1–10% arm, at 58 and 56%, respectively. Although small numbers, this result does provide some support to the use of pembrolizumab in this ER/PR-low group. The pathological CR rates were similar to those seen in the immunotherapy arm of KEYNOTE-522. A phase 3 study is currently recruiting, randomising this regimen with the standard anthracycline-containing regimen for the KEYNOTE-522 study. For now, the anthracycline-containing regimen remains the standard; however, for patients for whom anthracyclines are contraindicated, this regimen seems a very reasonable option.

Reference: JAMA Oncol 2024;10:227–35
Abstract

Breast Cancer Research Review™

Independent commentary by Dr Hilary Martin

Dr Hilary Martin is a medical oncologist at Fiona Stanley Hospital Perth subspecialising in breast cancer. Her initial oncology training was undertaken in South Australia. She subsequently worked as a breast unit fellow at the Royal Marsden Hospital, London, and also as a clinical fellow at Royal Perth Hospital. She has a Masters of Public Health through the University of Sydney and a PhD through the University of Western Australia. Her research interests include mammographic breast density, survivorship, CTDNA, and lobular breast cancer.

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Circulating tumor cells prediction in hormone receptor positive HER2-negative advanced breast cancer

Authors: Gerratana L et al.

Summary: This retrospective analysis of the MONARCH 2 trial explored machine-learning based stratification by CTCs (circulating tumour cells) for predicting survival; MONARCH 2 demonstrated the efficacy of abemaciclib plus fulvestrant in patients with hormone receptor-positive, HER2-negative metastatic breast cancer. Based on a dataset of 2436 patients with metastatic breast cancer, 183 were categorised as predicted stage $IV_{aggressive}$ (≥5 predicted CTCs) and 461 as predicted stage $IV_{indolent}$ (<5 predicted CTCs). A multivariable Cox regression analysis showed that along with Eastern Cooperative Oncology Group performance status, liver involvement, bone-only disease and treatment arm, predicted CTCs were independently associated with OS. The best OS and PFS were seen in abemaciclib recipients from the pStage Stage $IV_{indolent}$ subgroup. A subgroup analysis then revealed that the treatment benefit of abemaciclib on OS was consistent across all subgroups.

Comment: This study examined the utility of CTCs to stratify patients into prognostic categories for metastatic hormone receptor-positive, HER2-negative patients who were enrolled in the MONARCH 2 trial, which examined the addition of abemaciclib to fulvestrant. Based on training of the CTC model from a previous analysis on pooled dataset, patients were identified into aggressive disease, with CTCs ≥5/7.5mL blood or indolent with <5/7.5mL blood. Those with indolent disease based on CTC count had better PFS and OS than those with aggressive disease (15.3 vs. 10.7 months, and 32.2 vs. 47.8 months, respectively). This was found to be an independent marker. For future research, it would be useful to utilise these data to guide subsequent management strategies, with the authors suggesting targeting future studies to this subgroup with poorer outcomes.

Reference: Oncologist 2024;29:123–31
Abstract

Association of the m6A reader IGF2BP3 with tumor progression and brain-specific metastasis in breast cancer

Authors: Li Y et al.

Summary: Associations of IGF2BP3 (insulin-like growth factor 2 mRNA-binding protein 3; an N6-methyladinosine reader) with breast cancer progression and distant metastasis were explored in 152 pairs of breast cancer and adjacent normal tissue samples, and in a retrospective cohort of 561 patients with breast cancer and 163 cases providing adjacent normal tissue. It was found that in public gene datasets, *IGF2PB3* predicted distant breast cancer metastasis, particularly brain metastasis. In the clinical retrospective cohort, the IGF2BP3 expression rate increased gradually as breast cancer progression increased. Expression of IGF2BP3 was significantly associated with worse distant metastasis-free survival (adjusted hazard ratio 1.876 [95% CI 1.128–3.159]). IGF2BP3 expression was also significantly related to brain metastasis (p=0.011) with patients with IGF2BP3-positive brain metastasis having lower survival than those with IGF2BP3-negative brain metastasis (p=0.041), but it was not significantly related to lung or bone metastasis. The results of gene expression profiling revealed associations of high *IGF2BP3* expression with the PD-1 checkpoint pathway, HER2-HER3 signalling and epithelial-mesenchymal transition.

Comment: This study examined the correlation of IGF2BP3 in the progression and distant metastasis of breast cancer. This protein was selected for study as it has previously been shown to be associated with poorer prognosis in various cancers, including TNBC. It has also been shown to have significantly increased expression in brain metastases from breast cancer. This study analysis also found that IGF2BP3 was significantly higher in brain metastases than in the primary breast cancer. The study also showed that patients with IGF2BP3 expression also had higher risk of CNS metastases. The researchers advise further research is required to gain an understanding of why this association is present and whether there is a target to reduce the risk of future CNS metastases.

Reference: Cancer 2024;130:356–74
Abstract

Randomized adaptive selection trial of cryotherapy, compression therapy, and placebo to prevent taxane-induced peripheral neuropathy in patients with breast cancer

Authors: Accordino MK et al.

Summary: Patients with breast cancer receiving taxane chemotherapy (60.3% docetaxel) were randomised in triplets to cryotherapy (n=20), compression therapy (n=22) or loose gloves/socks as placebo (n=21) during taxane chemotherapy for prevention of peripheral neuropathy in this phase 2b adaptive sequential selection trial. An arm was eliminated if there were ≥4 fewer successes (<5-point decrease in the Functional Assessment of Cancer Therapy Neurotoxicity score at week 12) than the currently leading arm. The stopping criterion was met after the seventeenth triplet (n=51) was evaluated, at which time the 12-week success rates in the respective cryotherapy, compression therapy and placebo arms were 41.1%, 64.7% and 41.1%, and the respective adherence rates were 35.0%, 72.7% and 76.2%.

Comment: Peripheral neuropathy is a commonly experienced side effect with taxane therapy with most patients experiencing some degree of symptoms. For some this is reversible, but there is a proportion with significant ongoing symptoms. In this phase 2 study patients undergoing taxane therapy were randomised in a phase 2B study to frozen gloves/socks, compression gloves/socks or loose gloves/socks. The intervention garments were applied 15 minutes prior to taxane administration and removed 15 minutes after completion. The primary endpoint was change of <5 points on the Functional Assessment of Cancer Therapy Neurotoxicity assessment at 12 weeks from baseline. For this endpoint, 59.1% in the compression arm were successful compared with 45% in the cryotherapy arm and 52.4% in the placebo arm. Therefore it seems the compression arm was the most successful for the primary endpoint. Secondary endpoints included comfort and satisfaction, sensory perception testing with pressure and vibration sense testing, and quality of life. Further research examining the use of compression therapy in a phase 3 study is indicated.

Reference: Breast Cancer Res Treat 2024;204:49–59
Abstract

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