TPS621 Poster Session

The SURVIVE study: Standard surveillance vs. intensified liquid biopsy-based surveillance in early breast cancer survivors.

Henning Schäffler, Sophia Huesmann, Thomas W. P. Friedl, Kerstin Pfister, Angelina Fink, Franziska Mergel, Tatjana Braun, Forca Mehmeti, Natalie Uhl, Sabine Heublein, Andreas D. Hartkopf, Volkmar Mueller, Lisa Maria Wiesmueller, Tanja N. Fehm, Brigitte Rack, Peter A. Fasching, Wolfgang Janni; Department of Gynecology and Obstetrics, University Hospital Ulm, Ulm, Germany; Department of Gynecology and Obstetrics, SLK Klinikum Heilbronn, Heilbronn, Germany; Department of Obstetrics and Gynecology, University of Tuebingen, Tuebingen, Germany; Department of Gynecology, Hamburg-Eppendorf University Medical Center, Hamburg, Germany; Department of Gynecology and Obstetrics, University Hospital Düsseldorf, Düsseldorf, Germany; University Hospital Erlangen, Comprehensive Cancer Center (CCC) Erlangen-EMN, Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany; University Hospital Ulm, Ulm, Germany

Background: Current breast cancer (BC) follow-up relies on clinical examinations and breast imaging, as studies from the 1980s demonstrated no survival benefit from distant metastasis screening. However, with advancements in treatment strategies and the diagnostic potential of liquid biopsies, this approach warrants re-evaluation. To enable pre-symptomatic detection of distant relapse, we propose assessing a liquid biopsy-guided surveillance strategy incorporating tumor markers (CA 27.29, CA 125, CEA), circulating tumor cells (CTCs), and circulating tumor DNA (ctDNA). **Methods:** The SURVIVE study (NCT05658172) is the first large-scale, multicenter, partially double-blinded randomized controlled trial comparing intensified and standard surveillance in 3,500 survivors of medium- to high-risk early breast cancer (eBC). All subtypes are eligible. High risk includes (neo-)adjuvant chemotherapy, tumor size >50 mm, positive lymph nodes (≥pN1mi), or high grade (≥G3). Patients are randomized 1:1 to standard or liquid biopsy-guided intensified follow-up. Primary therapy (surgery, adjuvant chemo- or radiotherapy) completion is required, while adjuvant endocrine, antibody, or targeted therapy is permitted. Enrollment is allowed up to 24 months post-primary therapy for TNBC/HER2+ eBC and 60 months for HR+/HER2- eBC. In both arms, guideline-based follow-up is performed, with additional blood samples collected longitudinally (years 1–3 every 3 months; years 4–5 every 6 months). In the intervention arm, these samples are analyzed for tumor markers, CTCs, and ctDNA (RaDaR assay). Abnormal findings indicating minimal residual disease (MRD) trigger full staging. Recurrence is treated per national guidelines. In the case of M0 status, liquid biopsy testing and staging continue, with the option for inclusion in interventional trials, if applicable. The study is recruiting, with the first patient enrolled in December 2022. By January 2025, 812 patients were randomized across 78 centers. Final enrollment is scheduled for 2026 but may occur earlier due to accelerated recruitment. Statistics: The two primary objectives are to evaluate the lead time effect obtained by liquid biopsy marker testing in the intensified follow-up arm and to test whether intensified, liquid biopsy-guided surveillance improves overall survival (OS) compared to standard follow-up. OS will be analyzed in the ITT population using Kaplan-Meier and Cox regression, while the lead-time effect is assessed descriptively. Secondary endpoints include IDFS, DDFS, DRFS, BCSS, and QoL as well as biomarker sensitivities and specificities obtained in the intensified follow-up arm. Aims: We aim to determine whether liquid biopsy-guided follow-up enables earlier, sensitive, and specific detection of distant (oligo-)metastases, facilitating timely intervention and improving OS. Clinical trial information: NCT05658172. Research Sponsor: German Federal Ministry of Education and Research.