Supplemental Material

**Material and methods**

**Clinical examination, imaging and biopsy**

Past medical history was taken and clinical breast examination was performed before imaging of each patient. Breast ultrasound was performed with either an Aixplorer Supersonic ultrasound system (Supersonic Imaging, Munich, Germany) or a Toshiba Aplio MX (Toshiba Medical Systems, Neuss, Germany). Three gynaecologists with 5 to 12 years of experience evaluated the breast with knowledge of clinical findings. Two-plane mammography was performed with either computed radiography mammography or a digital full-field mammography unit (GE Senographe DMR with Philips Computed Radiography Eleva, Philips Healthcare, Hamburg, Germany or GE Senographe Essential CESM, GE Healthcare, Solingen, Germany) to demonstrate and detect suspect microcalcifications or parenchymal asymmetry. Magnetic resonance (MR)-mammography was performed with a 1.5T Siemens Avanto (Siemens Healthcare GmbH, Erlangen, Germany) in a prone position with intravenous injection of gadoteridol (Prohance in a dose of 0.1 mmol/kg body weight; Bracco Imaging Germany GmbH, Konstanz, Germany) as the T1 contrast media. Short tau inversion recoveries in the coronal plane in addition to axial T2 and fat-saturated T1 sequences before and in dynamic series after intravenous contrast media injection were acquired. Mammography and MR-mammography were evaluated by 2 breast radiologists with 6 and 10 years of experience.

After local anaesthesia with Scandicain, high-speed core needle biopsy of the suspicious breast lesion was performed with a BARD Magnum biopsy gun (Becton Dickinson, Heidelberg, Germany) under ultrasonographic control. Vacuum-assisted stereotactic breast biopsy was performed in a prone position after local anaesthesia application on a Lorad Multicare Platinum biopsy table (Hologic, Wiesbaden, Germany). The ATEC Breast Biopsy System and the EVIVA Breast Biopsy System (Hologic) were used for tissue collection. MR biopsy was performed with an ATEC MR biopsy device (Hologic) in a prone position after local anaesthesia. ATEC or EVIVA clips (Hologic) were placed in the biopsy site after stereotactic or MR-assisted vacuum biopsy. After a sonographic biopsy, a Mammotome breast biopsy marker (Leica Biosystems, Wetzlar, Germany) was used to mark the biopsy site.