

ABVS is a feasible method that may in the future be integrated into the workflow of a breast cancer center. ABVS guarantees high patient safety as there is no exposure to ionizing radiation and no injection of a contrast medium. ABVS is a highly sensitive method for breast cancer detection by both the “retraction” phenomenon and visualization of structural impairments in the whole breast. Women with dense breast tissue may benefit from ABVS because of improved workflow efficiency and lack of operator dependence. We proposed the use of ABVS with X-ray MMG together in order to increase the sensitivity and specificity of breast cancer detection.

ABVS is advantageous compared with HHUS in that it is less dependent on the examiners and it has excellent reproducibility. A good interobserver agreement is established for ABVS. A special wide aperture high-frequency probe produces sufficient image quality and resolution, and with its help the location of lesions can be determined more accurately by obtaining images of the overall breast. Patients with malignant breast tumors larger than 5 cm who undergo neoadjuvant chemotherapy may benefit from the automated technique because the handheld device has a smaller footprint (5 cm) and therefore is limited in the evaluation of the extent of disease. Patients with multiple masses might benefit from faster examination times than those of handheld

ultrasound. With the ABVS technique, the topography of surgical planning can be made easier.

ABVS may make ultrasound available to a larger number of women. Image acquisition with ABVS can be efficiently performed by a medical assistant. The performance of second readings by additional examiners and follow-up evaluations are unproblematic, which is important in screening programs. Moreover, ABVS allows a delayed interpretation of the images at any time.

ABVS coronal slices may assist in precise biopsy or when planning surgery.

Many researchers believe that the ultrasound breast tomosynthesis technique, or ABVS, can already today be integrated in the practice of outpatient oncology centers and multidisciplinary hospitals. Unfortunately the role of ABVS in breast cancer diagnosis screening programs has not yet been determined. In order to move this technique forward, there is a definite need for further research, prospective studies recruiting larger patients’ cohorts, and a multicenter design with multi-observer analysis.

One can easily imagine that in the future, possibly after further improvement, this technique will be used for screening younger patients under 40 years old and women with dense breasts, and additional studies such as CT and MRI mammography will be reserved only for cases with inconclusive ultrasound data.