International Workshop on Medical Ultrasound Tomography



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Challenges in Breast Ultrasound

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Abstract

Mammographic screening is used since almost 50 years in menopausal women. However 30% of breast cancers occur in premenopausal women and 30% of menopausal women have dense breasts where mammography fails in up to 50%. Furthermore women with dense breasts have higher risk to develop breast cancer. Diagnostic studies using high quality ultrasound technology (US) have proven a 30-40% increased detection rate of small cancers in young women and women with dense breasts. The prob-lem is that US is operator dependent and requires a systematic examination to cover the whole breast. Reproducibility is problematic with hand-held US. ABUS technology was developed to overcome these problems but requires a number of scan procedures to cover the entire breast, it depends on operator skills and the static scans do not allow to measure vascularity or elastography. A systematic and fast technology which performs whole breast scans in high quality allowing to measure reflectivity as well as other tissue properties could overcome these problems. However, large studies are required to prove its accuracy.

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