

**64 Assessment of the value of ShearWave™ Elastography in characterizing breast lesions****Purpose**

We report on updated interim results from an ongoing prospective multi-centre international study to evaluate the impact of adding ShearWave™ Elastography (SWE) features to the BI-RADS® classification in the framework of breast cancer diagnosis.

**Methods**

A subset of 192 female breast lesions (42.71% malignant) was analysed. Reproducibility of SWE images and measurements was assessed; logistic regression analysis was performed to predict the pathology findings. SWE features were added to the ultrasound BIRADS to generate models that were challenged by comparing ROC curves, sensitivity and specificity scores.

At the time of submission, the first phase recruitment is complete and the best characterization model is being defined on 1,000 lesions.

**Results**

In the preliminary analysis, intraoperator reproducibility of SWE size (IOR>0.93) and mean elasticity (IOR=0.88) measurements were very good. Using the best three-variable model (BIRADS + elasticity shape + maximum elasticity), the ROC area increased from 0.773 to 0.934, specificity increased from 61.8% to 87.3%, although sensitivity decreased from 92.7% to 87.8%.

**Conclusion**

In this ongoing study, SWE provided reproducible information (elasticity values and SWE map) that improved the ultrasound characterization of breast lesions. These features are directly linked to the characteristics of SWE: local quantification and millimetre resolution. These initial results are undergoing extended analysis.

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