Ultrasound Strain Elastography features in patients with early and advanced stages of cervical cancer

Objectives: To describe the Strain Elastography (SE) features in patients with cervical cancer (CC) and to assess if SE can improve tumor delineation.

Methods
We prospectively included 30 women with CC. Tumor size and delineation was assessed using SE, conventional ultrasound (TVU) and compared to histology. An elasticity score based on a 5-scale color spectrum, and strain ratio (comparing a 5 x 5 mm tumor region to healthy cervical stroma) was calculated.

Results
SE improved tumor delineation in 40% of early and 70% of advanced cases. Size agreement between SE and histology was excellent. An elasticity score of 4–5 was found in 45% with early- and 80% with advanced stage (p = 0.068).

Conclusion
SE may improved tumor delineation
SE provide more accurate size measurements than TVU alone
High elasticity scores correlate to advanced stages.

Figure 1. Elasticity Scores 2-5
Figure 2. Improved tumour delineation by SE
Figure 3. Size agreement TVU (left), SE (right) vs. histology
Figure 4. Elasticity scores. blue early, and red advanced stage

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