

EP12.20 Quantitative strain elastography in patients with squamous intraepithelial neoplasia (SIL)

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Objectives: The objective of this study was to determine whether the assessment of cervical quantitative strain elastography using the E-Cervix software in women with histopathologically confirmed low- and high-grade intraepithelial lesions (SIL) differs compared to women without a SIL diagnosis.

Methods: This preliminary study included 20 patients who underwent E-Cervix assessment followed by colposcopy and biopsy, leading to a diagnosis of high-grade squamous intraepithelial lesion (HSIL) in 7 patients and low-grade squamous intraepithelial lesion (LSIL) in 13 patients. The control group included 6 patients with abnormal cytology but without SIL confirmation on colposcopy and 14 patients with normal cytology results, totaling 20 participants. We compared the two groups (SIL and non-SIL) regarding the median values of elastographic parameters, such as the Hardness Ratio (HR), Elasticity Index (ECI), Internal Os Strain (IOS), External Os Strain (EOS), and IOS/EOS ratio. Continuous variables were analyzed using the Mann-Whitney U test, with differences considered statistically significant at $p < 0.05$.

Results: No statistically significant differences were found between the SIL and non-SIL groups in terms of the quantitative strain elastography parameters ($p > 0.05$ for all comparisons). Median values for the SIL versus non-SIL groups were as follows: ECI (3.32 vs. 3.35), HR (81.7 vs. 81.2), IOS (0.191 vs. 0.193), EOS (0.21 vs. 0.22), and IOS/EOS ratio (0.9 vs. 0.88).

Conclusions: The findings suggest that patients with SIL do not differ in quantitative strain elastography parameters of the cervix when assessed using the E-Cervix application. Further studies with larger sample sizes are necessary to address the potential for Type II error.