

Is the levator-urethra gap helpful for diagnosing avulsion?

Cita:

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Abstract

Introduction and hypothesis
Levator avulsion is a risk factor for female pelvic organ prolapse (POP) and recurrence after POP surgery. Imaging diagnosis requires the observation of an abnormal muscle insertion on tomographic ultrasound imaging (TUI). This study was designed to compare the diagnostic performance of the qualitative diagnosis (visual qualitative assessment) to measurement of the distance between muscle insertion and urethra [levator–urethra gap; (LUG)].

Methods

This was a retrospective analysis of data obtained in a tertiary urogynecological unit. All patients presented with symptoms of pelvic floor dysfunction and underwent 4D translabial pelvic floor ultrasound (US), supine, and after voiding. Avulsion was defined qualitatively as abnormal muscle insertion and quantitatively as $LUG \geq 25$ mm on at least three consecutive central axial plane slices, with one examiner using both methods. We examined the correlation between both methods and validated them against clinical prolapse, significant organ descent on US, and hiatal ballooning.

Results

Between January and July 2013, 233 patients were seen, of whom 202 had complete volume data sets. The qualitative method diagnosed avulsion in 22 % and the quantitative method in 24.3 %. Agreement was good, with a kappa of 0.79 (0.70–0.87). Avulsion diagnosed by either method was associated with clinical and sonographic prolapse and hiatal ballooning, with odds ratios nonsignificantly higher for the quantitative method.

Conclusion

Qualitative analysis of slices on TUI and a method using LUG measurement show good agreement for the diagnosis of avulsion. The LUG method is at least equally as valid in its capacity to predict significant prolapse on clinical examination and US, as well as ballooning of the levator hiatus.