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CORRELATION BETWEEN LEAK POINT PRESSURE (LPP) AND VESICAL NECK FUNNELING EVALUATED BY TRANS-PERINEAL ULTRASOUND

Hypothesis / aims of study

The leak point pressure (LPP), one parameter for assessment of urethral function, is useful for evaluation of intrinsic sphincter dysfunction (ISD), so-called, type III stress urinary incontinence (SUI). The LPP has, however, some problems, such as poor reproducibility. This study is aimed to evaluate any correlations between LPP and vesical neck funnelling evaluated by ultrasound.

Study design, materials and methods

The subjects are 20 cases including 14 of type III SUI and 6 of type III+II. LPP was measured with pressure generation using valsalva maneuver on the sitting position. The trans-perineal ultrasound was performed using 3.5 MHz convex-scanner at the standing position. The severity of SUI was evaluated by Pad test (60 min or 24 hours) and/or stress test. The degree of vesical neck funnelling was classified into two groups, namely, more than 1cm in depth or/and width of vesical neck as severe funnelling and less than 1cm in both as mild one. In the statistical analysis non-parametric U test was used.

Results

In cases with severe funnelling of vesical neck at rest (n=14) the mean value of LPP was 37.9 (SD 20.3) cm H₂O and all of them suffered severity of SUI. In contrast, in cases (n=6) with mild funnelling at rest it was 49.4 (16.3) cm H₂O. There was little significant difference between LPP value and the degree of funnelling. In the latter, 2 cases showed mild funnelling at strain and suffered moderate SUI, while the LPP values were likewise low, 47 and 75 cm H₂O, respectively.

Interpretation of results

These data suggest that in all cases suffering type III SUI less than 90 cmH₂O of LPP was observed, but it does not necessarily correlate with severity of SUI.

Concluding message

The severity of SUI correlates rather well with ultrasound evaluation of bladder neck conditions.