

URETHROLYSIS MORE LIKELY AFTER PROXIMAL MIGRATION OF MIDURETHRAL SLING

Hypothesis / aims of study

Urinary retention after midurethral sling surgery is usually self-limited. Transvaginal resection of a midurethral sling, or urethrolysis, is used to treat rare cases of refractory postoperative urinary retention. One possible explanation of refractory urinary retention after midurethral sling surgery is proximal location or migration of the tape. A proximally located tape would support the bladder neck and thus possibly influence the Q-tip test. The purposes of this study were to ascertain whether proximal location of the tape, as measured by the Q-tip test, is a factor in patients who undergo urethrolysis and, if so, to determine a cutpoint that can be used to identify high-risk individuals.

Study design, materials and methods

The study design was a case-control analysis of patients presenting to an urogynecology practice at a tertiary referral center. Patients routinely had Q-tip testing at the initial preoperative appointment and at six weeks after midurethral sling surgery. Seven cases of urethrolysis for urinary retention after primary midurethral sling were identified. Postoperative Q-tip test was performed before urethrolysis in all cases. Eighty patients who had a primary midurethral sling procedure during the same timeframe without postoperative retention composed the control group. Controls were selected from the entire cohort of midurethral sling procedures at the same institute. There was no selection criteria used in identifying controls other than the exclusion cases. The difference of 6-week postoperative minus preoperative resting and straining Q-tip angles were the main outcome variables. Student's T-test compared the means of preoperative demographic factors and of the outcome variables. A receiver operator curve was used to determine a cut-off value. An odds ratio compared the risk below the cut-off to that above it.

Results

Preoperative demographic factors were similar between cases and controls. The mean change in straining Q-tip angle was significantly more negative in cases than in controls (-52.1° vs. -25.5°, $p=0.004$). The mean change in resting Q-tip angle was not significantly different (-18.3° vs. -9.2°, $p=0.20$). A cut-off of -37° change in straining Q-tip angle predicted urethrolysis with a sensitivity of 0.86 (0.78-0.93, 95%CI) and a specificity of 0.67 (0.58-0.77). The odds ratio of the risk below the cut-off to that above it was 12.5 (1.4-108.9).

Interpretation of results

The Q-tip angle change was numerically more negative both resting and straining in cases compared to controls suggesting greater postoperative bladder neck support in cases. The lack of a significant difference between cases and controls at rest is consistent with the tension free placement of the tapes while the highly significant difference with straining demonstrated the proximal migration of the tape in cases. A cut-off of -37° change in straining Q-tip angle had good sensitivity and missed only one case of urethrolysis in this study.

Concluding message

The change in straining Q-tip angle from preoperatively to six weeks after midurethral sling surgery is more negative in patients who have urethrolysis, so proximal location of the tape is a factor in patients who are undergoing urethrolysis. Patients who have a change in straining Q-tip angle of more negative than -37° are at higher-risk to have urethrolysis.

FUNDING: NONE

DISCLOSURES: NONE

HUMAN SUBJECTS: This study was approved by the Evanston Northwestern Healthcare Institutional Review Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.