TITLE: Transobturator Slings for Urinary Incontinence: Clinical Effectiveness and Guidelines

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RESEARCH QUESTIONS

1. What is the evidence for the clinical effectiveness of transobturator slings for the treatment of urinary incontinence in women?

2. What are the adverse events associated with the use of transobturator slings for the treatment of urinary incontinence in women?

3. What are the evidence-based guidelines regarding the use of transobturator slings for the treatment of urinary incontinence in women?

KEY MESSAGE

One health technology assessment, one systematic review, nine randomized controlled trials, and three evidence-based guidelines were identified regarding the use of transobturator slings for the treatment of urinary incontinence in women.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2013, Issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and December 2, 2013. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, and evidence-based guidelines.

One health technology assessment, one systematic review, nine randomized controlled trials, and three evidence-based guidelines were identified regarding the use of transobturator slings for the treatment of urinary incontinence in women.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

The 2013 Ontario Health Technology Advisory Committee report indicated that there were more than 15 different midurethral slings licensed by Health Canada.[1] However, there did not appear to be one type of sling that was superior in terms of patient outcomes. The report indicated that transobturator route slings have a rate of bladder or vaginal perforation of approximately 1%. Long-term outcomes of the slings are unknown.

One systematic review[2] compared inside-out with outside-in transobturator procedures for female stress urinary incontinence. No significant differences in patient-reported or objective cure/improvement were reported at 12 months. There was no significant difference in quality of life scores reported between the two groups. The inside-out procedure was associated with significantly fewer vaginal angle injuries but more pain.

Six month,[9] one year,[10] and three year[4] outcomes of the Evaluation of Transobturator Tapes study comparing the inside-out versus outside-in techniques were identified. At six months, severe post-operative thigh pain was twice as common in the inside-out group, but the difference was not statistically significant.[9] There was no significant difference between groups in terms of objective cure rates or patient-reported success rates at six months,[9] one year,[10] or three years.[4] Previous incontinence surgery and preoperative urgency incontinence were significant risk factors for tape failure at one year.[10] When compared with the one year results, there was a significant decrease in patient-reported success rate at three years.[4]

A secondary analysis of one RCT[6] examined the success of the inside-out versus outside-in technique for women who had already undergone at least one previous continence procedure. Patient-reported success rate and objective cure rates were 69.6% and 76.5%, respectively, and there were no significant differences between groups. A secondary analysis of an RCT[7] examining the one year follow-up of women with urodynamic mixed incontinence reported overall results. The patient-reported success rate was 75%, and objective cure rate was 90%.

Two RCTs[3,11] compared biological and synthetic transobturator tape using the outside-in technique. There was no significant difference between groups regarding objective or subjective cure rates at one[3] or three years.[11] There were no reports of perioperative complications.[3,11]

One RCT[5] reported the three year follow-up of MONARC tape compared with tension-free vaginal tape obturator (TVT-O). The cure rate (85.7% versus 84.6%) and patient satisfaction (82.8% versus 82.1%) were similar between groups.

One RCT[8] was identified that compared the traditional inside-out procedure with a modified inside-out procedure that used a shorter tape and required no perforation of the obturator membrane. No intraoperative complications were reported. There was no significant difference between groups with respect to cure rate. Groin pain was more severe in the traditional group in the day following surgery, but there was no difference thereafter.

Three evidence-based guidelines were identified.[12-14] The National Institute for Clinical Excellence (NICE)[12] guideline only recommends the use of transobturator tapes with proven efficacy based on robust RCT evidence. At the time of publication (September 2013), TVT-O for an inside-out transobturator approach, and MONARC and obtryx halo for an outside-in approach, were considered to be effective for the purposes of the guideline. The guideline also suggests, when using synthetic tape, to use a device manufactured from type 1 macroporous polypropylene, and surgeons should consider using a tape coloured for high visibility, for ease of insertion, and revision. The Society of Obstetricians and Gynaecologists of Canada guideline[13] for the management of recurrent urinary incontinence after pelvic floor surgery, recommends retropubic tension-free vaginal tape be considered instead of transobturator tape in cases of surgical treatment of intrinsic sphincter deficiency. The guidelines of the French College of Gynaecologists and Obstetricians[14] for the diagnosis and management of adult female stress urinary incontinence, recommend sub-urethral tape via the retropubic or transobturator route as the first line surgical technique. Women undergoing the procedure must be made aware of the potential risks before undergoing the procedure.

REFERENCES SUMMARIZED

Health Technology Assessments

1. Ontario Health Technology Advisory Committee. OHTAC recommendation: Midurethral slings for women with stress urinary incontinence [Internet]. Toronto: Health Quality Ontario; 2013 [cited 2013 Dec 12]. Available from: http://www.hqontario.ca/Portals/0/Documents/eds/recommendation-midurethral-slings-130115-en.pdf

Systematic Reviews and Meta-analyses

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Randomized Controlled Trials

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Guidelines and Recommendations

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See: Synthetic Tapes, page 24 and footnote 11, page 25

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APPENDIX – FURTHER INFORMATION:

Randomized Controlled Trials – technique

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