

RETROPUBIC VS TRANSOBTURATOR SLINGS FOR STRESS INCONTINENCE: A COMPREHENSIVE SYSTEMATIC REVIEW AND META-ANALYSIS OF EFFICACY AND ADVERSE EVENTS

Hypothesis / aims of study

To perform an up-to-date systematic review and meta-analysis of all randomised controlled trials comparing retropubic and transobturator tapes in terms of efficacy and adverse events, and to identify whether any particular product is superior.

Study design, materials and methods

A comprehensive literature search was performed for all randomised controlled trials comparing retropubic and transobturator tapes for stress urinary incontinence. All types of tapes under the above categories from all manufacturers were considered. Data from trials in which one arm was randomised to Obtryx/Obtape transobturator tapes were excluded as this tape has been removed from the market. The cut-off date for the literature search was May 2011. Papers available online ahead of print were also considered. Outcomes assessed were objective and subjective cure rates, rates of voiding dysfunction, chronic pain, vaginal erosion, de novo urgency, perforation (vaginal/bladder/urethral) and haematoma formation. The papers were appraised using a structured format based on CONSORT criteria by two independent analysts and meta-analysis conducted using Review Manager software (v5).

Results

A total of 59 randomised trials [1] were identified comparing retropubic versus transobturator slings. There was no difference in objective or subjective cure rates overall between the two types of tape [Figure]. Voiding dysfunction was found to be less common with transobturator tapes (4666 patients; Odds Ratio 1.99, 95% Confidence Interval 1.53-2.59). Perforations were found to be much less common with transobturator tapes (4867 patients; Odds Ratio 7.38, 95% Confidence Interval 4.45-12.24), as was rate of haematoma formation (1943 patients; Odds Ratio 3.46, 95% Confidence Interval 1.60-7.47). Chronic pain was less common with retropubic tapes (1944 patients; Odds Ratio 0.34, 95% Confidence Interval 0.23-0.51). No statistical difference was seen in the rates of vaginal erosion or denovo urgency.

When analysing individual products the following results became apparent: **(a)** objective cure rates were higher for Gynecare TVT™ compared to Gynecare TOT™ (Odds Ratio 1.47, 95% Confidence Interval 1.01-2.13), however this was mainly driven by a single study [2] which only included women with grade 1 or 2 SUI and excluded grade 3 SUI. Rates of adverse events were similar to the overall data for retropubic vs transobturator tapes. **(b)** There was no difference between Gynecare TVT™ and Monarc™ in objective or subjective cure rates. Chronic pain was less common with Gynecare TVT™ (Odds Ratio 0.13, 95% Confidence Interval 0.03-0.59) and perforation was less common with Monarc™ (Odds Ratio 8.92, 95% Confidence Interval 2.69-29.56), again mirroring the results for all tapes.

No differences were demonstrated in any parameter between SPARC and Monarc TOT, Gynecare TVT and Safyre-T, or I-STOP TVT and I-STOP TOT.

Interpretation of results

Given that objective and subjective cure rates are not statistically different, it would appear that the choice of mid-urethral sling for stress incontinence depends mainly upon the rate of adverse events. There is strong evidence that the rate of perforation (vaginal/urethral/bladder) for retropubic tapes is much higher than for transobturator tapes. There is also a higher risk of hematoma formation and voiding dysfunction with retropubic tapes. On the other hand there is a statistically higher risk of incidence of chronic pain with transobturator tapes, but the magnitude of this difference is quite small. However the importance and impact of different adverse events on women's quality of life is not reported.

The overall effects are largely reflected by the sub-group analyses of individual products and there is no data to suggest superiority of one product over another either in terms of cure or adverse events. There is not enough data on SPARC™, Safyre-TOT™ nor I-STOP™ tapes to draw any meaningful conclusions.

Concluding message

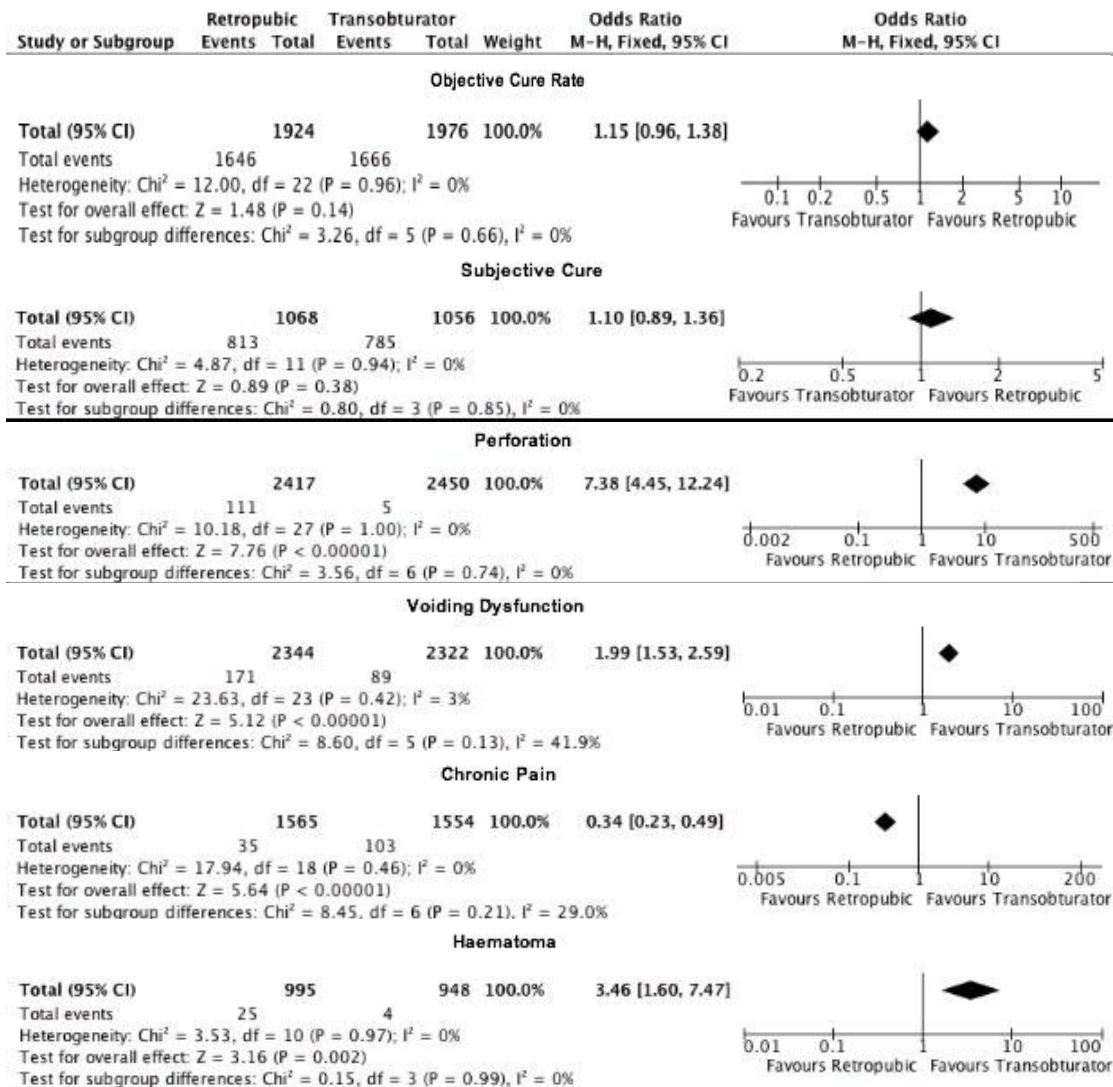
The balance of evidence continues to suggest that transobturator tapes are equally efficacious but have a different adverse event profile than retropubic tapes for treatment of stress incontinence in women. The choice of individual product does not influence outcome according to the available data. Women should be warned about the differences in adverse events, and their likely impact on quality of life, when the choice of midurethral tape is being made.

References

1. Luca MG, Bosch JLHR, Cruz FR, Madden TB, Nambiar A, Neisius A, Pickard RS, de Ridder DJMK, Tubaro A, Turner WH. Guidelines on Urinary Incontinence. EAU Guidelines 2012 edition 67-72
2. Araco F, Gravante G, Sorge R, et al. TVT-O vs TVT: a randomised trial in patients with different degrees of urinary stress incontinence. Int Urogynecol J Pelvic Floor Dysfunct 2008 Jul; 19(7):917-26

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** NONE



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