

COMPLICATION RATES OF SINGLE INCISION SLINGS—META-ANALYSIS OF THE WORLD LITERATURE

Hypothesis / aims of study

Single-incision slings are touted to provide equal efficacy with less morbidity than the traditional mid-urethral slings. This study was designed to review the available data regarding the complication rates of single-incision slings placed for stress urinary incontinence, notably the TVT-Secur by Ethicon and Mini-Arc by AMS.

Study design, materials and methods

A PubMed search using the terms “mini sling or TVT Secur or Mini Arc” was performed. 64 articles were identified. 38 of these provided some information regarding complications. Case reports and studies which had less than 3 months average follow-up were excluded. This left 27 studied with 2,549 patients for review. The following complications were recorded: de novo urgency and urge incontinence, urinary tract infection (UTI), urinary retention, vaginal mesh extrusion, urethral erosion, bleeding, bladder perforation, vaginal wall perforation, urethral laceration, pain, and dyspareunia. Using SAS software, complication rates were calculated as were minimum and maximum values.

Results

2,549 patients were included representing 1,628 TVT-Secur procedures and 921 Mini-Arc procedures. The average follow-up was 11.8 months. The most common reported complication was de novo urgency, frequency and urge incontinence with a rate of 7.7% (0-32.9%). The rate of UTI was 2.0% (0-11.9%). The rate of urinary retention was 2.9% (0-9.6%), with 0.5% of the patients requiring operative urethrolysis. The rate of vaginal extrusion or exposure was 2.0% (0-12.5%). The rate of urethral erosion was 0.03% (0-1.1%). The rate of bleeding complications was 0.66% (0-2.5%). The percentage of patients requiring re-operation for bleeding was 0.03%. The rates of vaginal wall perforation, urethral perforation, and bladder perforation were all less than 1%. Patients reported post-operative pain at a rate of 2.0% (0-26%) and dyspareunia at 0.2% (0-2.1%).

Interpretation of results

This meta-analysis of the available studies of single incision slings finds that the complications which are common to other sling procedures are also found for the single incision slings. At the time of implantation, perforation of the vaginal wall, urethra, and bladder can occur as can intraoperative and postoperative bleeding. Exposure or extrusion of mesh occurred in 2% of the cases which is on par with what would be expected with traditional mid-urethral slings. Finally, voiding dysfunction and de novo urgency, frequency, and urge incontinence are reported for the single incision slings at rates not dissimilar to those seen for traditional mid-urethral slings.

Concluding message

Based on the early data, with the exception of bladder perforation rates which are consistently higher with retropubic midurethral slings, the single incision slings appear to have similar complication rates to those published for the more traditional retropubic and transobturator midurethral slings. Long term studies and prospective comparisons are needed.

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<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	NONE