

## FACTORS ASSOCIATED WITH MIDURETHRAL TAPE EROSION

### Hypothesis / aims of study

Midurethral tape procedures are gradually becoming new gold standard treatment for female stress urinary incontinence (1). Tape erosion into the vagina has been reported as a recognized complication in several studies (1, 2, 3). Possible reasons for erosion include inadequate depth of vaginal incision, inappropriate suturing, wound infection or impaired wound healing (2). This study aims to determine the influence of possible risk factors on this complication in order to achieve more favourable results in the future.

### Study design, materials and methods

The patients who had closure of vagina over eroded mid-urethral tape (TVT/TVT-O) during a period of 36 months (January 2005 to December 2007) were identified from the operating theatre registry. We identified a control group consisting of two patients for each case, who had the same operation during the same time in this unit and did not have mesh erosion. The case notes were reviewed to retrieve data on the following: age, parity, number of vaginal deliveries, BMI, smoking, use of HRT (hormone replacement therapy), diabetes, blood loss during procedure, any other vaginal operation performed along with TVT/TVT-O and grade of surgeon. Statistical Package for Social Sciences (SPSS) Windows, version 10.0, was used for statistical analysis. Students "t" test was used to compare groups for continuous variables. Multivariate logistic regression analysis was used to identify the risk of blood loss for erosion. Erosion was taken as the dependent variable and the blood loss as the independent variable.

### Results

During the period of 36 months, 625 TVT procedures were done and 19 cases of mesh erosion were identified (3.04%), 38 controls were selected. Estimated blood loss during the operation was found to be significantly more ( $p=0.001$ ) in patients with erosion ( $115.8 \text{ ml} \pm 8.7$ ), as compared to patients without erosion ( $58.9 \text{ ml} \pm 4.2$ ). This association remained statistically significant even after the adjustment for the confounding factors such as age, smoking, diabetes, BMI and HRT ( $p < 0.0001$ ). None of the other factors such as age, smoking, diabetes, BMI or the grade of surgeon were found to have any statistically significant association with erosion.

### Interpretation of results

In this small series, only increased estimated blood loss was associated with a risk of mesh erosion. Increased blood loss during the procedure can cause inappropriate wound healing, either by impairing oxygen delivery due to the presence of a haematoma, or because the haematoma provides a focus of infection at the incision site resulting in wound break down.

### Concluding message

Our findings suggest that greater amount of blood loss during the operation increases the risk of mesh erosion. Particular measures should be taken to ensure adequate haemostasis. Vaginal wall dissection in the wrong plane, inadequate depth of dissection and inappropriate vaginal incision suturing may result in erosion of tape.

### References

1. Cetinel B, Demerkesen O. Risk factors influencing the complication rates of tension-free vaginal tape type procedures. *Current Opinion in Obstetrics and Gynaecology*. 17: 530-534, 2005
2. Kobashi KC, Govier FE. Management of vaginal erosion of polypropylene mesh slings. *Journal of Urology*. 169: 2242-3, 2003
3. Tsvivan A, Kessler O, Mogutin B, Rosenthal J, Korczak D, Levin S, Sidi AA. Tape related complications of the tension-free vaginal tape procedure. *Journal of Urology*. 171: 762-4, 2004

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<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>No</b>
<b>This study did not require ethics committee approval because</b>	<b>The data used for this study was gathered retrospectively from patients' case notes.</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>