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FACTORS INFLUENCING THE OCCURRENCE OF MESH EROSION AFTER TRANSOBTURATOR SLINGS FOR STRESS URINARY INCONTINENCE

Hypothesis / aims of study

Identify factors associated with mesh erosion using a transobturator procedure for correction of stress urinary incontinence (SUI)

Study design, materials and methods

A total of 69 patients underwent surgery for SUI correction by placement of a polypropylene mesh sling by transobturator approach. Demographic and medical history data were collected by interview at baseline, 1 month, 6 months and 1 year after the procedure. A speculum exam to screen for mesh erosion and infections was performed at each postoperative visit. Comparisons between groups were performed using chi-square and unpaired Student's t test. The level of significance was set at $p < 0.05$.

Results

There were 5 (7.2%) mesh erosions reported within 1 year of surgery. Forty two (60.9%) patients had concomitant surgeries. Age, parity, menopause status, hormonal therapy, body mass index, diabetes mellitus, vaginal throphism, previous and concomitant surgery and perioperative complications were not associated to mesh erosion. Univariate analysis only identified previous surgery for SUI (3.6 *versus* 33.3%; p= 0.002) and perioperative vaginal transfixation (4.5 *versus* 66.7%; p<0.001) significantly associated with vaginal erosion.

Interpretation of results

The main goal of surgical treatment for SUI is to render patients completely continent without generating significant morbidity. Despite the recognition of the risk of erosion, synthetic graft materials have been preferred over autologous grafts, because they are durable, avoid the morbidity and operative time of harvesting fascia, are readily available, and are relatively inexpensive. We used a type I polypropylene tape as a sling, and we placed it at the mid-portion of the urethra. In our prospective study with standardized follow-up, 5 of 69 (7.2%) of subjects had mesh erosion. Surgeries of our study were performed in a university hospital with a residency program which can partially explain our high rates of erosion. Surgeon experience may be related to another finding of our study: perioperative vaginal transfixation as a risk factor for mesh erosion. Vaginal transfixation by the mesh proved to a factor associated with erosion. This is a very important information since the transfixation is a modifiable situation. Surgeons have to pay more attention and be more careful when they are going to pass the needles through the periurethral space. In our study, erosion was not associated with concomitant surgeries maybe because transobturator sling used much less mesh and had a fewer dissection area when compared with a prolapse correction surgery. Late erosion is possibly associated with progressive erosion of vaginal wall, whereas erosion after vaginal procedure could be due to defective healing of the wound as erosion is usually found on the incision line. In our study, four mesh erosions (80%) were diagnosed within 12 weeks. This is in accordance with the mesh erosion associated factors finding in our study. The transfixation and previous surgery can affect the healing process, leading to more immediate erosions.

Concluding message

Previous surgery for SUI and perioperative vaginal transfixation constitute risk factors to vaginal mesh erosion after transobturator slings.

Specify source of funding or grant	**None**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Comitê de ética em pesquisa da Universidade Federal de Minas Gerais**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**