596

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VIDEO DEMONSTRATION OF SUPRAPUBIC CYSTOSCOPIC MANAGEMENT OF BLADDER MESH EROSION AND SUTURE REPAIR OF BLADDER WALL DEFECT: "NATURAL ORIFICE SURGERY".

Synopsis of Video:
This video demonstrates cystoscopy via a suprapubic approach to remove bladder mesh erosion as a long-term complication of mid-urethral tape procedure. The position of bladder mesh erosion was not accessible through conventional cystoscopy and the bladder defect following removal of the mesh was closed with a suture.

Hypothesis / aims of study:
Bladder mesh erosion is an uncommon but important complication of mid-urethral tape procedures used for the treatment of stress urinary incontinence. When the site of the mesh erosion is inaccessible to conventional cystoscopy it is usual practice to perform a cystotomy via a laparotomy incision. An alternative to laparotomy is the use of suprapubic cystoscopy. The aim of this video is to demonstrate removal of a bladder mesh erosion and suture repair of a subsequent bladder wall defect via a suprapubic cystoscopy approach.

Study design, materials and methods:
The case shown in this video is of a 73-year-old woman who underwent anti-incontinence surgery 9 years previously. She had undergone this surgery using a strip of prolene atrium mesh (normally used for abdominal hernia surgery). It was a "non-kit" retro-pubic mid-urethral sling used to treat her stress urinary incontinence. The patient presented with 3 years of bladder pain, urinary urgency and recurrent urinary tract infections. Ambulatory cystoscopy revealed mesh erosion in the bladder, just inside the bladder neck, at the "2 to 3 o'clock" position. The patient was consented for clinical photography and signed a media release authorisation in compliance with local IRB guidelines.

A suprapubic cystoscopy approach to remove the mesh erosion was recommended. Surgery was performed with the patient in the lithotomy position under general anaesthesia. The bladder was filled with 500 ml of water. A cystoscope was introduced into the bladder and a 5mm suprapubic port was placed under direct vision. A further 5mm port was introduced lateral to the first port. A zero degree 5 mm scope with attached video camera was used suprapubically. The eroded mesh was excised and removed from the bladder leaving a relatively large defect in the bladder mucosa that required closure with sutures. The bladder was drained of the water medium and then inflated with carbon dioxide to improve visual clarity during the procedure. A rapidly absorbing monofilament suture and laparoscopic needle holder was used to close the bladder wall defect. The suture was inserted, tied and retrieved through a natural orifice (urethra). An extra-corporeal knot was slid though the urethral orifice.

Results:
The patient made an uneventful recovery and reported a marked improvement in her bladder symptoms. A further ambulatory cystoscopy is planned for 3 months following surgery.

Interpretation of results:
The procedure displayed in this video demonstrates a novel minimal access approach to bladder mesh erosion not accessible to conventional cystoscopy. This suprabubic cystoscopy approach avoided the need for a laparotomy incision and also allowed to surgeon to close, with sutures, a bladder wall defect created by removal of the eroded mesh.

Concluding message:
The use of suprapubic cystoscopy in the removal and closure, with sutures, of a bladder wall defect should be considered to treat bladder mesh erosions as an alternative to laparotomy. This approach managed to take advantage of the urethra as a "natural orifice" surgical port.

Specify source of funding or grant	**No funding nor grant was used to conduct this study**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**No need for ethics approval yet a written consent was obtained from the patient for clinical photography and media release authorization in line with IRB guidelines.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**