Robotic Repair of Vesicovaginal Fistulae: Transperitoneal Transvaginal Approach

Introduction and Objective: Prior robotic repair of vesicovaginal fistula has been described using transperitoneal extravesical and transvesical approaches. We describe the trasperitoneal transvaginal approach, a novel technique.
Materials and Methods: A 47-year-old woman underwent abdominal hysterectomy for benign uterine myomas. She presented symptoms of urine leakage per vagina post-operatively. The patient failed a trial of bladder drainage, as well as laparoscopic vesicovaginal fistula repair and endoscopic fulguration. Cystoscopy revealed a 2 cm opening on the bladder behind the left ureteral orifice. A 10 Fr Foley catheter is placed through fistulous tract from the vagina to the bladder. An omental flap is prepared and mobilized robotically. A stay suture is placed in the bladder using a straight needle and exteriorized to maintain counter traction. The vagina is identified with digital guidance and is incised. The fistula tract is excised. The bladder and vaginal walls are dissected and separated. Cystorraphy is performed in two layers in an interrupted fashion using an absorbable suture. Vaginal opening is closed with running stitches. Omentum is interposed and anchored between the bladder and the vagina. Flexible cystoscopy is performed to identify the ureteral orifice and catheter; the ureteral catheter is removed, and an 18 Fr urethral catheter is maintained for 15 days.
Results: Urethral catheter was removed after 15 days post-operative, no hematuria was observed. The patient had minimal irritative voiding symptoms postoperatively.
Conclusions: Using the laparoscopic robotic-assisted transperitoneal transvaginal approach for vesicovaginal fistula repair is a feasible procedure where the fistula tract is identified by intentionally opening first from the vagina, thereby minimizing the bladder incision and potentially the incidence of recurrence as well as irritative voiding symptoms.

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