Robotic Management of Rectourethral Fistula

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Introduction

Rectourethral fistula (RUF) is an uncommon condition that can result from surgery, trauma, malignancy, and radio- or cryotherapy.

Management is challenging and depending on the location, size, presence of pelvic sepsis, and history of radiation and/or previous failed repair(s).

Various surgical approaches including transabdominal, transanal, transperineal, or transsphincteric have been employed.

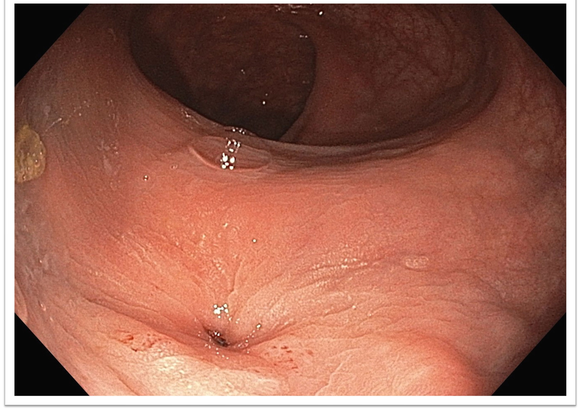
Methods

We conducted a retrospective review of our prospectively maintained surgical registry for robotic RUF procedures performed between December 2017 – October 2020 at our institution.

Patients who had non-robotic surgeries were excluded. The cohort was classified into 3 groups; Group 1 (DE) dual organ exenteration, Group 2 (SO) single organ exenteration, and Group 3 (DO) dual organ preservation (bladder & rectum).

Table 1: Overall cohort demographics

Age (yrs)	66.6 (48-79)
BMI	28.5 (21.7-36.7)
ASA II	46% (6)
ASA III	54% (7)
Prior radiation	61% (8)
Prior energy injury	15% (2)
Prior repair attempted	15% (2)
Pelvic Sepsis	38% (5)
Complex Fistula	92% (12)



Results

Thirteen patients underwent robotic rectourethral fistula operations, cohort demographics are illustrated in Table 1.

All patients developed RUF secondary to prostatic cancer surgery or its adjuvant therapy: 7 patients had previous prostatectomy, 5 other patients had prostatic radiation alone, and 1 patient had prostatic cryo-ablation with no prior or subsequent surgery or radiation. Two patients had history of recurrent RUF after previous repair.

The various operations for robotic repair are listed in Figure 1 and are described further in Table 2.

The mean length of stay was 12 (DE), 6 (SO), and 6 (DO) days.

Three out of 13 (23%) patients developed one or more Clavien-Dindo grade III complications in the immediate postoperative period (30days): 0 in Group 1 (DE), 1 in Group 2 (SO), and 2 in Group 3(DO).

Only 1 patient (7.6%) developed a recurrence of rectouretheral fistula.

Figure 1 Distribution of Approach Type

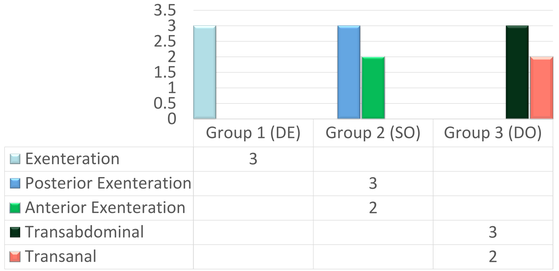


Table 2: Operative details

	Group 1 (DE)	Group 2 (SO)	Group 3 (DO)
% of total (n)	23% (3)	38% (5)	38% (5)
Preop Fecal diversion	2	1	3
Preop Urine diversion	2	0	1
Procedure duration (hrs)	14 (9-20)	12.5 (11-14)	8 (4-14)
EBL (ml)	466 (300-700)	200 (75-300)	235 (100-400)

Conclusion

Robotic assisted approaches for the treatment of rectourethral fistulas is a safe and feasible alternative with acceptable short term outcomes in the appropriately selected patients.

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