

OUTCOMES OF RECONSTRUCTIVE UROLOGICAL SURGERY IN RADIOTHERAPY PATIENTS

Prodromos Ouzounoglou Bogdan Toia, Jai Seth, Hazel Ecclestone, Mahreen Pakzad, Rizwan Hamid, Tamsin Greenwell, Jeremy Ockrim
 Female, Functional and Restorative Urology team, University College Hospital at Westmoreland Street, London

Introduction

Pelvic radiotherapy for urogynaecological and colonic malignancies has chronic effects on the urinary tract. Radiation induced damage causes tissue fibrosis leading to urinary tract dysfunction. (1-3) Ongoing ischaemia poses a management challenge for reconstructive surgeons, with poor viability of urological and bowel tissues. We examined the urological sequelae of radiotherapy to assess the types of reconstructive urological surgery (RUS) required and their functional outcomes

Materials and methods

A retrospective review was performed of all radiotherapy patients who underwent RUS between 2015–2017. Details including time from radiotherapy, pre-operative assessments, type of surgery performed and functional outcome were analysed

Results

- 27 patients were identified (3 men; 24 women, age 59 (27–83) yrs).
- Primary malignancy was; cervical (19), rectal (5), urethral (1), vaginal (1), pelvic sarcoma (1).
- Mean time between radiation and primary RUS was 8 years.
- 8/13 ureteric strictures were bilateral
- 3/4 fistulae were vesicovaginal and was neobladder to vagina
- 39 procedures were performed in 27 patients
- Revision surgery was required in 5 (19%) patients.
- GFR remained at or improved from pre-operative level in all patients.
- 2 had continued UI, 1 post colposuspension and 1 post ileocystoplasty.
- 2 developed bowel obstruction, 1 required ileostomy formation; 1 rectal fistula
- 1 patient developed a PE

Diagnoses	Procedures Performed	Frequency n (%)
Contracted bladders with compliance loss (mean bladder capacity was 179mls)		18 (67%)
Vesico-ureteric reflux (secondary to poor compliance)		12 (44%)
Ureteric stricture		13 (48%)
Urinary incontinence		12 (44%)
Urinary fistulae		4 (15%)
Intractable detrusor overactivity		13 (48%)
	Ileal conduit diversion	14 (2 requiring further revision of anastomotic strictures; 1 conversion neobladder to conduit)
	Ileocystoplasty	5
	Ileal interposition chute	7 (1 requiring further revision of anastomotic stricture)
	Ureteric reimplantation	3
	Vesicovaginal fistula reapiir	3 (one neobladder to vagina fistula repair)
	Colposuspension	2
	Bladder neck closure and Mitrofanoff	1



Figure 1: Patient with carcinoma treated with radiotherapy 10 years prior CT KUB high ureteric strictures, high pressure contracted bladder Underwent formation of Rous en Y (two limb) ileal conduit

Conclusions

This is a challenging cohort of patients, with significant compromise of lower urinary tract and bowel function. A variety of major RUS is required for management. Urinary continence was achieved in the majority, and renal function was preserved. However, this was at a cost of a re-intervention rate of 19% and significant morbidity in 14%. RUS in radiotherapy field should be performed in centres with experience

References:

1. Joye, I. and K. Haustermans, Early and late toxicity of radiotherapy for rectal cancer. *Recent Results Cancer Res*, 2014. 203: p. 189-201.
2. Prasanna, P.G.S., et al., Normal tissue protection for improving radiotherapy: Where are the Gaps? *Translational cancer research*, 2012. 1(1): p. 35-48.
3. Dorr, W. and J.H. Hendry, Consequential late effects in normal tissues. *Radiother Oncol*, 2001. 61(3): p. 223-31.