CASE REPORT

An interesting case of an antihypertensive causing post-prostatectomy incontinence

Debashis Sarkar,^{1,2} Manal Kumar²¹Department of MSc Advanced Surgical Practice, Cardiff University, Cardiff, UK²Department of Urology, Wirral University Hospital, Wirral, UK

Correspondence to

Debashis Sarkar,
debu4726@yahoo.co.uk

Accepted 16 September 2015

SUMMARY

A 70-year-old man underwent a laparoscopic radical prostatectomy with preservation of bladder neck for T3aN0R0 prostate cancer in December 2009, (Gleason 4 +3, negative surgical margin). His postoperative prostate-specific antigen rose from 0.01 to 0.05 ng/mL over 19 months. He had salvage radiotherapy in May 2012. Following radiotherapy, his urinary control worsened and he needed to wear up to four pads per day. He was being considered for an artificial urinary sphincter placement. He was also taking doxazosin for hypertension, which was discontinued. After stopping the doxazosin, his urinary control improved and he did not require any further intervention. Doctors should be aware of the effect of α -blockers on the internal sphincter and the risk of incontinence in patients post-prostate cancer treatment.

BACKGROUND

Stress urinary incontinence is possible after surgery or radiotherapy to the prostate as these can damage the sphincter mechanism.¹ Preservation of the bladder neck (internal sphincter) during surgery allows better continence.² α -Blockers relax the bladder neck and can potentially worsen urinary control if the bladder neck is competent. There are no reported cases to date of a patient having reversible incontinence due to α -blockers after prostate cancer treatment.

CASE PRESENTATION

A 70-year-old man presented with prostate-specific antigen (PSA) of 7.9 and transrectal ultrasound biopsy-confirmed Gleason 4+3 adenocarcinoma in both lobes involving 10–80% of all cores. MRI staged as T1c. Prostate volume was 79 cc. The patient underwent laparoscopic radical prostatectomy and bilateral pelvic lymphadenectomy. During surgery, the bladder neck was preserved and the unilateral left-sided nerve sparing dissection was performed. Postoperative PSA was 0.02 ng/mL and histology was T3aNo with negative surgical margins. The patient underwent salvage radiotherapy after 23 months for a rise in PSA to 0.05. Following salvage radiotherapy, he developed stress urinary incontinence and had to wear four pads per day. He was given a trial of stopping doxazosin and listed for a flexible cystoscopy. Three days after stopping doxazosin, his urinary control improved significantly, and he was down to an incontinence liner for security. He also subsequently had a flexible cystoscopy, which confirmed

good sphincteric length with wide-open anastomosis. Now, he only occasionally needs a pad, and is taking losartan potassium to control his blood pressure.

INVESTIGATIONS

Flexible cystoscopy.

DIFFERENTIAL DIAGNOSIS

Sphincter incompetence.

TREATMENT

Laparoscopic radical prostatectomy and salvage radiotherapy.

OUTCOME AND FOLLOW-UP

This patient is under urology and oncology follow-up.

DISCUSSION

A randomised controlled trial³ and other studies have shown that bladder neck preservation does not affect oncological outcome.^{2,4} However, some surgeons feel that bladder neck preservation at radical prostate surgery may compromise surgical margin clearance.

α 1-adrenoreceptor blockers have been widely used in the treatment of systemic hypertension and have been used safely, relatively free of side effects. There have been some reports of stress incontinence in elderly women taking this drug while being treated for hypertension, but there have been no such reports in men.^{5,6}

In this case of a 70-year-old man, the bladder neck (or the 'internal sphincter') was preserved during surgery. Along with the external voluntary sphincter, it provided good urinary control after surgery. Although the patient was on doxazosin, which relaxed the bladder neck, the patient was continent due to a competent external sphincter (figure 1A, B). After salvage radiotherapy, the external sphincter was compromised (figure 1C). With a relaxed bladder neck (internal sphincter) due to doxazosin and a damaged external sphincter from radiotherapy, the patient became incontinent (figure 1D). Stopping doxazosin improved urinary control as it made the internal sphincter competent (figure 1E). This would not have helped if the bladder neck (internal sphincter) was removed at surgery. This is the first report to date where we found doxazosin contributing as a potential factor for urinary incontinence in men after prostate surgery and pelvic irradiation.

CrossMark

To cite: Sarkar D, Kumar M. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-211576

Figure 1 (A–E) Doxazosin and urinary control.

Learning points

- Consider a trial of stopping α -blockers and prescribing an alternative antihypertensive in patients with post-prostate cancer treatment (ie, surgery, radiotherapy, high-intensity focused ultrasound or even cryotherapy) with urinary incontinence, where the external sphincter may have been damaged.
- Before prescribing an α -blocker, physicians should take a detailed history of a patient for any prostate and bladder surgery or radiation.
- Doctors should explain potential side effects of medications before prescribing them to their patients.

Twitter Follow Debashis Sarkar at @debu4726

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Brunocilla E, Schiavina R, Borghesi M, *et al*. Preservation of the smooth muscular internal (vesical) sphincter and of the proximal urethra during retropubic radical prostatectomy: a technical modification to improve the early recovery of continence. *Arch Ital Urol Androl* 2014;86:2.
- 2 Golabek T, Jaskulski J, Jarecki P, *et al*. Laparoscopic radical prostatectomy with bladder neck preservation: positive surgical margin and urinary continence status. *Wideochir Inne Tech Maloinwazyjne* 2014;9:362–70.
- 3 Nyarangi-Dix JN, Radtke JP, Hadaschik B, *et al*. Impact of complete bladder neck preservation on urinary continence, quality of life and surgical margins after radical prostatectomy: a randomized, controlled, and single blind trial. *J Urol* 2013;189:891–8.
- 4 Friedlander DF, Alemozaffar M, Hevelone ND, *et al*. Stepwise description and outcomes of bladder neck sparing during robot-assisted laparoscopic radical prostatectomy. *J Urol* 2012;188:1754–60.
- 5 Marshall HJ, Beevers DG. α -adrenoreceptor blocking drugs and female urinary incontinence: prevalence and reversibility. *Br J Clin Pharmacol* 1996;42:507–9.
- 6 Menefee SA, Chesson R, Wall LL. Stress urinary incontinence due to prescription medications: alpha-blockers and angiotensin converting enzyme inhibitors. *Obstet Gynecol* 1998;91:853–4.

Copyright 2015 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow