Vesicourethral Strictures After Radical Prostatectomy: Review of Treatment and Outcome

WACHIRA KOCHAKARN, M.D.*,
KRISADA RATANA-OLARN, M.D.*,
VIRA VISESHSINDH, M.D.*

Abstract

Objective: Stricture of the vesicourethral anastomosis is a complication after radical prostatectomy. Urethral dilatation, internal urethrotomy, transurethral resection or laser therapy have been reported as the treatment for this complication. The objective of this study was to present our experience with the management of the vesicourethral stricture.

Material and Method: A retrospective study of 90 patients undergoing radical prostatectomy for localized prostatic carcinoma was done. The vesicourethral stricture was treated by dilatation, internal urethrotomy, and transurethral resection of scar tissue in all of the patients. Dilatation was done in less severe cases, internal urethrotomy was done in partial obliteration or after failure of dilatation. Transurethral resection was done in cases with long scar tissue.

Results: Ten patients (11%) had anastomotic stricture. The strictures were treated by dilatation in 5 cases, internal urethrotomy in 4 cases and transurethral resection in 1 case. Cure was achieved in all of the patients without incontinence. The median follow- up was 10 months (4-36 months)

Conclusion: The dilatation and endoscopic procedures of the vesicourethral stricture showed a high cure rate and low incidence of incontinence.

Key words : Prostate, Carcinoma, Surgery, Radical Prostatectomy, Complication, Urethral Stricture

KOCHAKARN W, RATANA-OLARN K, VISESHSINDH V
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* Division of Urology, Department of Surgery, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok 10400, Thailand.

Radical prostatectomy is used as the surgical treatment of organ- confined prostate cancer. At surgery, the bladder neck is transected and removed with the prostate gland, the seminal vesicles and surrounding fat. A new bladder neck is reconstructed and anastomosed to the membranous urethra. Bladder neck contracture is one of the complications and problems of this procedure with a prevalence of 0.8-20 per cent[1,2]. Urologists prefer endoscopic treatment (dilatation, incision and resection) for this stricture but some severe strictures require open surgery[1-3]. The objective of this study was to report the experience with the management of the vesicourethral stricture after radical retropubic prostatectomy.

MATERIAL AND METHOD

A retrospective review of 90 consecutive patients undergoing retropubic prostatectomy for organ-confined prostate cancer between 1997 and 2000 was performed. The mean patient's age was 66 years old (range 55-70). All of the operations were done by a single urologist (W K). Bladder neck reconstruction was done in the same technique; it was tailored to 20F in a racket handle fashion. After mucosal eversion of the reconstructed bladder neck, a mucosa-to-mucosa vesicourethral anastomosis was created over a 20 F catheter using 5 anastomotic sutures. Urethral catheter was indwelled for 3 weeks and removed after no leakage was seen from the cystogram. If leakage was demonstrated, another 2 weeks of catheterization was needed. Dilatation by metal dilator or filiform and followers was used first in strictured cases and internal urethrotomy was performed after failure. Transurethral resection of scarred tissue was used in long scar stricture. The incidence of vesicourethral stricture was determined and treatment of the stricture was also assessed.

RESULTS

Anastomotic stricture was found in 10 cases (11%) requiring treatment. The pathological examination showed free surgical margin in all cases. The mean time of stricture was 1.8 months after catheter removal (range 1-3.5 months). The treatment included five cases of dilatation alone, four cases of internal urethrotomy and one case of transurethral resection of scarred tissue. After treatment, all of the cases could urinate with a good stream and are still continent. No erectile dysfunction was found related to the treatment of strictures. With the mean time to follow-up of 10 months (range 4-36 months), none of the treated cases had recurrence from either stricture or cancer.

DISCUSSION

Vesicourethral anastomosis is one of the important steps in the radical prostatectomy procedure[1]. Stricture of the anastomosis is one of the complications which is of concern to urologists. The mucosa-mucosa anastomosis is crucial and shows a lower incidence of stricture[1]. Incidence of vesicourethral stricture was reported to be 0.8-20 per cent[1,2]. An important risk of stricture was non mucosa- mucosa anastomosis due to poor technical experience[1,4]. Igel et al reported a high incidence of stricture after Vest traction sutures for vesicourethral anastomosis[5]. Other risks mentioned were urinary leakage *via* anastomotic site, coronary artery disease, diabetes mellitus, hypertension, and cererovascular diseases. All of the risks mentioned were correlated with poor blood supply due to microvascular disorders and impaired wound healing[4]. Prior transurethral resection of the prostate, blood loss or prolonged operative time showed no statistically significant correlation with the stricture[4]. Endoscopic treatment seems to be the procedure of choice for this stricture[1]. Popken et al[6] and Dalkin et al[7] reported a 100 per cent success rate without incontinence. Ramchandani et al used the balloon dilatation to treat the stricture with a success rate of 59 per cent and transurethral incision was used after failure[2]. Mark et al[8] reported 26 of 77 patients had incontinence after treatment of anastomotic stricture and artificial sphincters were performed in all of the cases. Laser has been used in combination with endoscopic incision or resection but showed no significantly better results than the conventional technique[9]. Schlossberg et al reported their experience in open surgical repair of obliterated vesicourethral stricture due to the severity of the stricture and failed endoscopic management. No urinary incontinence was reported after open surgery in this study[3]. Our study showed a high success rate as was found in previous studies with very few complications[6-9].

SUMMARY

Anastomotic stricture after radical prostatectomy can be effectively treated with the endoscopic technique (dilatation, incision and resection) with no serious complication. Open surgery should be used only for dense scar tissue.

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REFERENCES

1. Surya BV, Provet J, Johnson KE, Brown J. Anastomotic strictures following radical prostatectomy: Risk factors and management. J Urol 1990; 143:755-8.
2. Ramchandani P, Banner MP, Berlin JW, Dannenbaum MS, Wein AJ. Vesicourethral anastomotic strictures after radical prostatectomy: Efficacy of transurethral balloon dilatation. Radiology 1994; 193:345-8.
3. Schlossberg S, Jordan G, Schellhammerr P. Repair of obliterative vesicourethral stricture after radical prostatectomy: A technique for preservation of continence. Urology 1995;45:510-3.
4. Borboroglu PG, Sands JP, Roberts JL, Amling CL. Risk factors for vesicourethral anastomotic stricture after radical prostatectomy. Urology 2000;56: 96-100.
5. Igel TC, Barret DM, Rife CC. Comparison of techniques for vesicourethral anastomosis: Simple direct versus modified Vest traction sutures. Urology 1988;44:888-92.
6. Popken G, Sommerkamp H, Schultze-Seemann W, Wetterauer U, Katzenwadel A. Anastomotic stricture after prostatectomy. Incidence, findings and treatment. Eur Urol 1998;33:382-6.
7. Dalkin BL. Endoscopic evaluation and treatment of anastomotic strictures after radical retropubic prostatectomy. J Urol 1996;155:206-8.
8. Mark S, Perez LM, Webster GD. Synchronous management of anastomotic contracture and stress urinary incontinence following radical prostatectomy. J Urol 1994;151:1202-4.
9. Carr K, Webster GD. Endoscopic management of the obliterated anastomosis following radical prostatectomy. J Urol 1996;156:70-2.

รอยต่อของกระเพาะปัสสาวะกับหลอดปัสสาวะตีบตันหลังการผ่าตัดต่อมลูกหมากออกทั้งหมด: ประสบการณ์การรักษาและการติดตามผล

*วชิร คชการ, พ.บ.**
กฤษฎา รัตนโอฬาร, พ.บ., วีระ วิเศษสินธุ์, พ.บ.**

วัตถุประสงค์ ปัญหาการตีบตันของรอยต่อกระเพาะปัสสาวะกับหลอดปัสสาวะหลังการผ่าตัดต่อมลูกหมากออกทั้งหมด (radical prostatectomy) เป็นปัญหาแทรกซ้อนที่สำคัญ การรักษาส่วนมากใช้การขยายหลอดปัสสาวะหรือการผ่าตัดทางกล้อง การศึกษาครั้งนี้เพื่อรายงานประสบการณ์การรักษาและผลการรักษา

วัสดุและวิธีการ ศึกษาย้อนหลังผู้ป่วยมะเร็งต่อมลูกหมากที่ได้รับการผ่าตัด radical prostatectomy ที่หน่วยศัลยศาสตร์ระบบปัสสาวะ โรงพยาบาลรามาธิบดี จำนวน 90 ราย รอยต่อที่ตีบรักษาโดยการขยายหลอดปัสสาวะ หากไม่สำเร็จใช้การผ่าตัดทางกล้อง

ผลการศึกษา ผู้ป่วยที่มีรอยต่อตีบมี 10 รายคิดเป็นร้อยละ 11 สามารถรักษาโดยการขยายหลอดปัสสาวะ 5 ราย การตัดรอยตีบ (internal urethrotomy) 4 ราย และการตัดผังผืด (transurethral resection) 1 ราย ทุกรายประสบความสำเร็จ ผู้ป่วยสามารถถ่ายปัสสาวะได้ดีและสามารถกลั้นปัสสาวะได้ เมื่อติดตามการรักษามาเฉลี่ย 10 เดือน (4–36) ทุกรายยังไม่มีการเกิดตีบซ้ำและไม่มีมะเร็งเกิดซ้ำเช่นกัน

สรุป รอยต่อของกระเพาะปัสสาวะกับหลอดปัสสาวะตีบหลังการผ่าตัด radical prostatectomy สามารถรักษาได้ดีโดยการขยายหลอดปัสสาวะและถ้าใช้กล้องผ่าตัดมีอาการแทรกซ้อนน้อยมาก

คำสำคัญ : ต่อมลูกหมาก, มะเร็ง, การผ่าตัด, ปัญหาแทรกซ้อน, หลอดปัสสาวะตีบ

วชิร คชการ, กฤษฎา รัตนโอฬาร, วีระ วิเศษสินธุ์
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* หน่วยศัลยศาสตร์ระบบปัสสาวะ, ภาควิชาศัลยศาสตร์, คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี, กรุงเทพมหานคร 10400