

A CASE OF TURBT AFTER PENILE PROSTHESIS IMPLANTATION

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The patient was a 66-year-old man who had undergone implantation of a penile prosthesis for organic erectile dysfunction 7 years prior to consulting our hospital with a complaint of gross hematuria. Since a pedunculated, superficial tumor 1 cm in diameter was noted lateral to the left ureteral orifice, transurethral resection of the bladder tumor (TURBT) was performed. In this patient, we were able to insert the sheath with no difficulty, and the surgical procedure was done smoothly, resulting in complete resection of the tumor. However, the location of the tumor in the anterior or posterior wall of the bladder predicted difficulty of the tumor resection. Therefore, we consider it important to sufficiently evaluate the feasibility of complete TURBT before surgery and to thoroughly examine the patient for benign prostatic hyperplasia and bladder cancer, which can cause difficulty with post-implantation transurethral procedures, and to perform transurethral surgery before implantation, if prosthesis implantation is planned.

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Key words : Penile prosthesis, Bladder tumor

INTRODUCTION

Penile prosthesis implantation has been established as an effective therapy for patients with organic erectile dysfunction who cannot be effectively treated by other therapies^{1,2)}. However, when transurethral surgery for benign prostatic hyperplasia, bladder cancer or other disorder is required after the implantation of a penile prosthesis, technical difficulties may arise. We report a patient who underwent penile prosthesis implantation and subsequently developed bladder cancer, which was successfully resected completely by transurethral surgery.

CASE REPORT

The patient was a 66-year-old man who had undergone implantation of a penile prosthesis (Duraphase : American Medical Systems, Inc, Minnetonka, Minnesota. Exclusively Distributed In Japan By Takai Hospital Supply Co, Ltd, Tokyo, Japan) (Fig. 1) for erectile dysfunction 7 years prior to the present consultation. The implanted prosthesis was 16 cm long (body 13 cm,

distal tip 1 cm, proximal tip 2 cm). He consulted our hospital with a chief complaint of gross hematuria. At the outpatient clinic, we performed cystoscopy with a 17-Fr cystoscope, and noted a pedunculated, superficial tumor 1 cm in diameter lateral to the left ureteral orifice. Insertion of the cystoscope was painless and proceeded without technical difficulty. TURBT was considered to be indicated in this patient, and was performed under spinal anesthesia with a left obturator nerve block. The distance from the patient's external urethral orifice to the base of the pubic bone was about 10 cm. An OLYMPUS 24-Fr resectoscope was used for TURBT. The length of the insertion portion of the sheath was 182 mm (A), the range of loop movement was 18 mm (B), and the distance from the proximal end of the sheath to the tip of the maximally extended loop was 200 mm (A+B) (Fig. 2). At surgery, the sheath could be inserted without difficulty, and complete resection of the tumor was successfully performed, with the sheath maximally extended. The pathological diagnosis of the tumor was transitional cell carcinoma, G2>G1, pTa. Therefore, there were no additional treatments given, and the

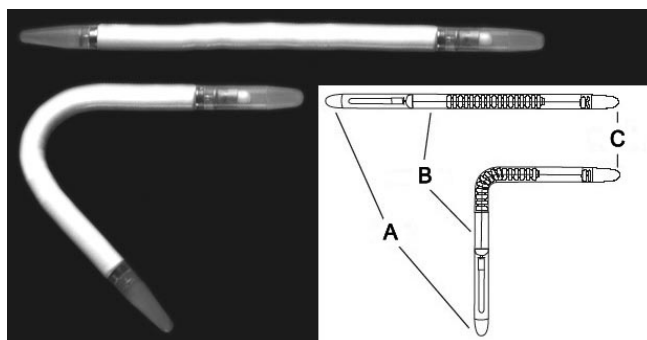


Fig. 1. The shape of Duraphase. A, Distal tip. B, Body cylinder. C, Proximal tip.

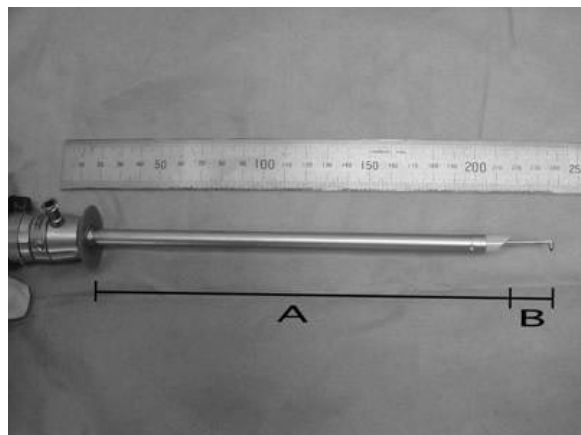


Fig. 2. Resectoscope (OES4000, OLYMPUS). A, The length of the insertion portion. B, The distance of loop movement.

patient has remained free of recurrence during postoperative follow-up at the outpatient clinic.

DISCUSSION

Transurethral surgery for bladder cancer developing after penile prosthesis implantation has only been reported by Ninomiya et al.³⁾ and the patient reported here seems to be a very rare case. Prosthesis implantation involves implantation of 2 cylinders in the cavernous body of the penis. There are two types of penile prosthesis: a non-inflatable penile prosthesis (NIPP) and an inflatable penile prosthesis (IPP) consisting of 2 cylinders, a pump placed in the scrotum, and a reservoir placed in the Retzius space. Transurethral procedures after IPP implantation are less likely to present difficulty in operative techniques, because the penis is closer to a physiological state⁴⁾. However, NIPP is selected in many cases⁵⁾, because IPP is expensive, and sometimes is accompanied by mechanical problems. In performing TURBT for bladder cancer detected after NIPP implantation, conventional instruments and methods may not allow an approach to tumors located in the posterior or anterior bladder wall, preventing complete resection; therefore, it is important to preoperatively localize the tumor and estimate the length of the prosthesis.

Although a rigid cystoscope was used in the preoperative examination of this patient, the use of a flexible cystoscope seemed advisable for safety considering the physical pressure on the urethra associated with penile prosthesis insertion. Ninomiya et al.³⁾ reported that management of patients in whom complete resection has been judged to be difficult before surgery requires the use of a more proximal approach by inserting the sheath via an episiotomy and shortening the prosthesis-bearing penis by twisting it; however, this technique seems difficult to perform. They also stated that a resectoscope with a longer than usual insertion portion of the sheath should be prepared. Indeed, a resectoscope with a sheath insertion length of 265 mm

(Long Resectoscope, OLYMPUS) has been described as useful overseas. Unfortunately, the currently approved and commonly used resectoscopes available in Japan, have the following sheath insertion lengths: OES 4000 (OLYMPUS), 182 mm; OES-PRO (OLYMPUS), 194 mm; and K27040 (STORZ), 193 mm. Thus, the resectoscope may not reach the tumor, depending on its location. Therefore, in such a case, it is better to make a small incision above the pubic bone and resect the tumor by pressing the bladder with the fingers or to perform tumor resection, electroablation, or laser irradiation via a flexible endoscope. Alternatively, it is recommendable to abandon endoscopic surgery and attempt complete resection by transvesical electrocoagulation or electroresection⁶⁾. Small tumors may be resected ureteroscopically.

Before consenting to prosthesis implantation, patients should be fully informed that transurethral manipulation may become difficult after implantation, and that, in particular, the implantation of AMS 600 (American Medical Systems, Inc., Minnetonka, Minnesota. Exclusively Distributed In Japan By Takai Hospital Supply Co, Ltd, Tokyo, Japan) or Duraphase, an NIPP approved in Japan, is contraindicated in patients expected to require repeated transurethral surgery^{7,8)}.

It is also important to confirm, before prosthesis implantation, the absence of diseases potentially requiring transurethral procedures (bladder cancer, prostatic hyperplasia, urethral stenosis, and cystolithiasis), and if present, to perform transurethral surgery before implantation, or to consider implantation of an IPP (AMS 700 CXM: American Medical Systems, Inc, Minnetonka, Minnesota. Exclusively Distributed In Japan By Takai Hospital Supply Co, Ltd, Tokyo, Japan).

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和文抄録

陰茎プロステーシス移植術後に TURBT を施行した 1 例

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症例は66歳, 男性. 7年前に器質性勃起不全のため, 陰茎プロステーシス移植術を受けていた. 肉眼的血尿を訴え来院. 左尿管口外側に径 1 cm 大の有茎性表在性腫瘍を認めたため, 経尿道的膀胱腫瘍切除術 (TURBT) を施行した. 本症例に対しては, シースはとくに支障なく挿入可能であり, 手術操作もスムーズに行え, 腫瘍の完全切除が可能であったが, 腫瘍の存在位置が膀胱前壁や後壁の場合には腫瘍切除の困難が

予想された. そのため, プロステーシス移植後の TURBT に対しては, 完全切除できるかを術前に十分評価を行うこと, また, プロステーシス移植を予定した場合, 移植後に経尿道的操作に支障をきたすことがあり得るため, 前立腺肥大症, 膀胱癌などの存在を精査し, 移植前に経尿道的手術を行っておくことが重要であると考えられた.

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