

A Case of Primary Urethral Carcinoma and Inguinal Lymphatic Metastasis with Partial Penectomy and Limited Inguinal Lymphadenectomy

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INTRODUCTION

Primary urethral carcinoma in males is responsible for less than 1% of their malignant diseases.⁽¹⁾ Approximately 50% to 75% of these lesions are originated from posterior urethra (prostatic, membranous, and bulbar urethra), anterior urethra, and mostly from meatus and fossa vanicularis.⁽²⁾ In males, if the tumor remainders originate from anterior urethra, the most common symptom will be difficult urination and nodule sensation. In more advanced stages signs would be urinary obstruction or incontinence secondary to bladder overflow. Hematuria, purulent discharges, decrease in caliber and urinary pressure, straining during urination, dysuria, abscess around urethra, and fistula formation are also seen.⁽²⁾ In large lesions of anterior urethra, a mass on the ventral surface of penis may be palpable.⁽²⁾ Painful ejaculation, priapism, penile ulcer, and sexual dysfunction could be the causes of referral. Size of penis could be increased due to tumor, indurations, and edema. Loss of appetite, weight loss, and malaise are later complaints of the disease secondary to chronic infection.

The duration between the beginning of symptoms and diagnosis may even be 3 years that is most often due to patient embarrassment and sometimes because of misdiagnosis. Sever hemorrhage is an important symptom of urethral cancer in patients who undergo urethral stricture treatment with gentle dilation. Medical examination and earlier cystoscopy could decrease mistakes in diagnosis.⁽³⁾ Penile examination should

be systematically performed, beginning from the end of penis towards urogenital diaphragm. Palpation of corpus spongiosum and corpus cavernosum to detect any mass, hardness, or both could be of help in estimating the severity of disease.⁽³⁾

CASE REPORT

A 66-year old married farmer form Rafsanjan, southeast of Iran, with chief complaint of decrease of urinary force, hematuria, clot in the urine, sensation of mass, and hardness at the end of penis and both groins.

Herniorrhaphy had been conducted for the patient 2.5 years before, after which he had developed acute urinary retention followed by open prostatectomy. He had suffered from urinary retention after the removal of catheter. He had been catheterized again, hospitalized for a while, and finally after a period his catheter had been removed.

No urinary complication was reported till a few months before our visit. He had no history of smoking or any other disease. He used pest poison for his trees 2-3 times annually without considering protective measures. He had 10 healthy children.

In clinical examination, a 4×4 cm² hard oval mass at the end of penis with no extension to skin and meatus was palpated. In the right inguinal region a 4×4 cm² and in the left inguinal region a 3×3 cm² mobile hard mass with no pain and redness were observed (fig.1).

Mild leukocytosis, hematuria, and pyuria were reported in his laboratory tests. His urine culture was negative. Other hematological, biochem-



FIG. 1. A hard mass at the end of penis and the right and left inguinal regions is observed.

ical, and liver and kidney function tests were normal. He had normal DRE and IVU too.

Cystoscopy was done under anesthesia. The whole 4 cm glandular urethra was invaded by the tumor. Proximal urethra was normal. The bladder was totally examined and there was no lesion. Biopsies were taken from the bladder wall, bladder neck, and finally from the tumor. Pathology results were normal for bladder samples and showed undifferentiated SCC in the mass.

Consequently, the patient underwent partial penectomy with bilateral superficial inguinal lymphadenectomy. A circumferential incision was made 2 cm proximal to the tumor.

The penis was cut 6.5 cm distally and a biopsy was taken from the proximal margin of urethra (samples A and B). Then left and right superficial and limited inguinal lymphadenectomy was conducted. Palpable lymph nodes were removed and sent to pathology as seven groups (samples C-D).

Results of pathology of penis sample indicated infiltrative tumor with a dimension of 3×3×4 cm³ and an invasion to corpus cavernous, which is 4 mm beneath the skin and 8 mm from meatus.

Microscopic analysis showed vessel invasion in a section of tumor. Proximal margin of surgery was reported normal.

Diagnosis of tumor (SCC) was again confirmed. Biopsy of the rest urethral margin was normal

(B). All lymph nodes were tumorless except for that of superior right inguinal region (D).

Macroscopic examination of sample D indicated a 2×3×5 cm³ creamy tissue, which included 4 cm (0.5-2.7) lymph nodes, two of which were tumoral, of whom one demonstrated perinodal with extracapsular invasion.

The patient was referred to an oncologic surgical center for classic right inguinal lymphadenectomy. However, he refrained from referral.

To date, 60 months after surgery, no local recurrence was observed in examination and inguinal regions were normal (fig. 2). According to the patient, the length of the penis was adequate to void straightly and intercourse. In the MRI taken 44 months post-operatively, pelvic and inguinal regions were tumorless.



FIG. 2. The rest of the penis and the scar of bilateral superficial inguinal lymphadenectomy 60 months after surgical treatment

DISCUSSION

Most often primary urethral tumor occurs at the age of 60 to 80 years and the mean age at diagnosis is 60 years.⁽⁴⁾ No precise etiologic factor has been reported but long-term urethral infection, urethral stricture, chronic inflammation, sexually transmitted diseases, urethritis, and trauma are proposed as risk factors.

This patient had no history of urethral infection or stricture and only a long-term catheterization following herniorrhaphy and prostatectomy was reported.

A considerable number of patients have a history of exposure to carcinogens or cigarette smoking. Nonetheless, there is still no epidemiologic study concerning these factors as a causative mechanism for urethral cancer.⁽⁴⁾ The patient had no smoking history. However, he was in contact with pesticides.

In males if the tumor develops at anterior urethra, the most common complaint would be difficult urination and nodal sensation. Severe hemor-

rhage is one of the primary symptoms of urethral cancer in patients who undergo gentle dilatation for urethral stricture.

Early cystoscopic examination could reduce mistakes in diagnosis.⁽²⁾ This patient was referred with low urinary flow, hematuria, hardness, and mass sensation at the end of penis and inguinal regions.

The examination of penis should begin from its end towards urogenital diaphragm. Bimanual examination should be done for detecting prostate lesions, invasion to trigone, and adhesion to the pelvic wall. Systematic examination of inguinal region should be done to detect their involvements.

Urethroscopy and cystoscopy should be performed. Pelvic CTscan should be conducted in the cases of all tumors except for superficial and most distal ones. IVU is essential for urethral TCC. Taking ample biopsies from the lesions is very important which is mostly conducted through urethra.

Treatment has two parts:

A. Treatment of tumor: According to the tumor location and size, there are four general treatment options: 1. conservative treatment and local excision; 2. partial penectomy; 3. radical penectomy; 4. total removal of penis, urethra, scrotum, and anterior pubis associated with cystoprostatectomy.

Since patient had a limited tumor at the end of penis and at least 2 cm of normal urethra could be removed in a way that patient could void straightly, partial penectomy was done. A biopsy was taken separately which was tumorless and the study of sample indicated that surgical margin was also without tumor. Sixty months later, no local recurrence was noted and the patient had satisfactory intercourse.

B. Lymph nodes treatment: Urethral cancer tends to local lymphatic invasion, which is occurred before distant metastasis. Lymph nodes of anterior urethra are directly drained into deep and superficial inguinal lymphatic glands.

Several principals should be considered in the treatment of lymph nodes: 1. it is confirmed by several researchers that if lymph nodes are palpable, there will be a high risk of nodal involvement. This is contrary to SCC of penis in which

palpable inguinal masses may have no tumoral involvement and patient is recommended for lymphadenectomy after antibiotic therapy.^(3, 6) 2. inguinal lymphadenectomy could be a definite treatment in male urethral cancer; therefore, any case of palpable lymphatic gland should be treated by classic and complete lymphadenectomy. Limited lymphadenectomy is recommended for patients who refrain from classic lymphadenectomy after the confirmation of nodal involvement. This may indicate that limited and superficial lymphadenectomy could be a successful treatment, which leads to long-term survival with minimal involvement of inguinal lymphatic glands. Superficial inguinal lymphadenectomy in this patient led to definitive treatment 60 months later.

Of course, most researchers believe that if there is no palpable inguinal node, prophylactic lymphadenectomy will be of no value.^(3, 6) Some applied radiotherapy successfully to treat primary tumor of urethra and lymph nodes metastasis⁽⁴⁾, while, some others believe that radiotherapy is met with unacceptable results.⁽³⁾

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