

A RARE CASE OF PENILE METASTASIS OF TESTICULAR CANCER PRESENTED WITH PRIAPISM

Teruo INAMOTO, Haruhito AZUMA, Yusaku IWAMOTO,
Takeshi SAKAMOTO and Yoji KATSUOKA

The Department of Urology, Osaka Medical College

Priapism is thought as a condition of penile erection that persists beyond or is unrelated to sexual stimulation. Commonly two different entities of priapism are known, one is low-flow priapism and the other is high-flow priapism. It is important to distinguish these two conditions for the subsequent different treatments. We report a rare case of an indistinguishable priapism caused by penile metastasis of testicular cancer.

(Hinyokika Kyo 51 : 639-642, 2005)

Key words : Priapism, Penile metastasis, Testicular cancer

INTRODUCTION

Penile metastases of testicular cancers are rare. In addition, priapism caused by penile metastases of other sites is seldom seen¹⁻⁴⁾. As far as we know, this is the first report of penile metastasis of testicular cancer presenting as priapism. Generally the priapism can be classified into low-flow priapism, and high-flow priapism. The present case demonstrated combined symptoms of high-flow and low-flow priapism, so initially we could not clearly identify our case. We should potentially regard priapism of elderly people as a symptom of penile metastasis in a case of combined type of high-flow and low-flow priapism, in particular, when the patient is tumor-bearing.

CASE REPORT

A 86-year-old man admitted to our hospital with a chief complaint of swelling of left scrotal contents. The ultrasound examination demonstrated a heterogeneous mass lesion in his left testis (6.5×6.5 cm in size). The

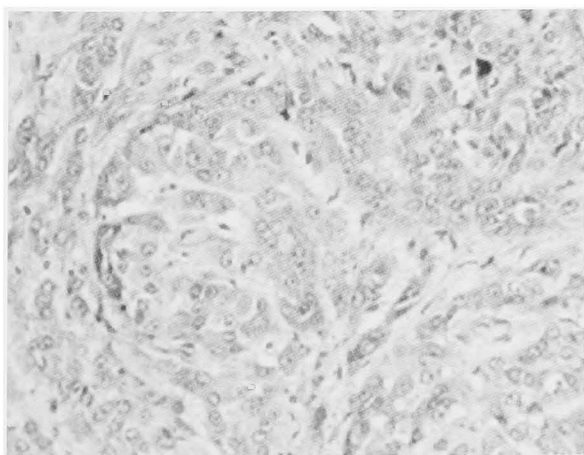
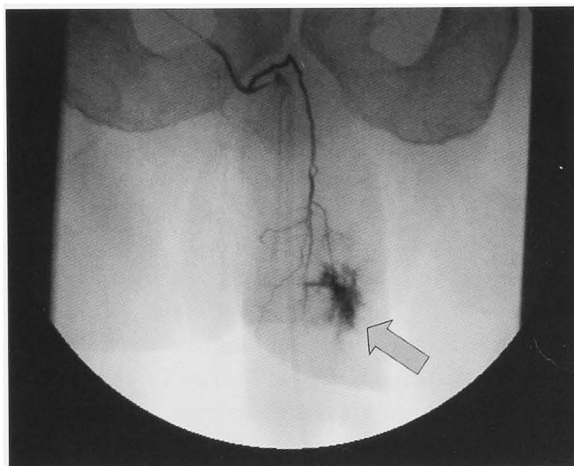


Fig. 1. Histopathological findings in HE-stained sections Corpus cavernosum was completely displaced by embryonal carcinoma (Original magnification, ×200).

levels of serum tumor markers were within the normal range (α -fetoprotein AFP; 1.1 ng/ml, human chorionic gonadotropin hCG; <0.1 ng/ml). Computed tomography (CT) revealed multiple metastatic nodules in the lung. We performed left high-orchietomy with a diagnosis of left testicular cancer accompanying multiple lung metastases. Histopathological evaluation revealed mixed germ cell tumor of the testis (embryonal carcinoma and mature teratoma) (Fig. 1). We recommended the patient to undergo systemic chemotherapy, but he refused. Four months after the operation, the patient became aware of painless priapism with semi-rigid erection (Fig. 2A). On readmission, the patient asked for further investigation to find the cause of priapism. Initially we performed various diagnostic procedures to find the cause of priapism with a faint suspicion of penile metastasis. Doppler ultrasound demonstrated a rapid arterial inflow to the cavernous body. Moreover, selective internal pudendal arteriography revealed a collapse of deep penile artery (Fig. 2B). Both of them were typical of high-flow priapism. In contrast, the repeated gasometric blood analyses of the cavernous body indicated the values of suspicion blood, implied low-flow priapism. We performed various treatment procedures, including 1) adrenomimetics administration to the penile shaft, 2) aspiration of thrombus, 3) thrombolysis therapy using plasminogen activator, 4) shunting method where we created a bypass between corpus cavernosum and corpus spongiosum, and 5) embolization of the collapsed site of internal pudendal artery. However, all these treatment procedures were ineffective. Then we performed biopsy of cavernous body, with a suspicion of penile metastasis. Pathological analysis demonstrated an embryonal carcinoma that was the same histology as his testicular cancer. Voiding disturbance caused by priapism gradually became severe. He strongly refused undergoing suprapubic catheterization, so he finally underwent total penectomy to improve the status of urination. Macroscopically, the metastatic mass was



A



B

Fig. 2. Findings of priapism. A: appearance of priapism with semi-rigid erection. B: findings of selective internal pudendal arteriography. Black arrow shows a collapse of deep penile artery.

invasive and spread over almost the whole cavernous body. Histologically, we observed aggressive cancer growth with innumerable mitoses. The tumor completely replaced the corpus cavernosum, which was thought to be the cause of failure in finding a mass using MRI. We diagnosed our case as penile metastasis of testicular cancer. After the operation urination was improved dramatically.

DISCUSSION

Only three penile metastases of testicular cancer have been reported previously⁵⁻⁷⁾. As far as we know, this is the first report of priapism due to the metastasis of testicular cancer. Initially we had a faint suspicion of penile metastasis, but imaging studies including MRI were not helpful in finding the penile tumor. In addition, tumor markers were within the normal range. The reason why tumor markers were not elevated is still unknown. However, the European Germ Cell Cancer Consensus Group (EGCCCG) reported a consensus that there are cases with relatively low markers. In 56% of non-seminomas AFP <1 ng/ml and b-HCG <1,000

ng/ml (<5,000 IU/l) – have a good prognosis⁸⁾. The priapism includes the following two entities. One is called low-flow priapism, which is caused by infiltration of corpus cavernosum and subsequent blood stasis and thrombosis of the venous sinuses. The other entity is a high-flow priapism that is caused by the infiltration of penile arteries and rapid inflow of blood into the corpus cavernosum^{9,10)}. Regarding our case, almost all treatments for priapism were ineffective. A metastatic mass might cause rhexis of the penile artery, resulting in a rapid arterial inflow to the cavernous body. At the same time, the mass might press the cavernosal vein, causing the blood stasis in the cavernosal body. This rare pathogenesis of the present case might be responsible for the difficult differential diagnosis of, and treatment for priapism.

We should take penile metastasis into account as a cause of priapism, especially in a case of elderly, tumor-bearing, and indistinguishable priapism.

ACKNOWLEDGEMENTS

Written consent was obtained from the patient for publication.

REFERENCES

- 1) Kotake Y, Gohji K, Suzuki T, et al.: Metastases to the penis from carcinoma of the prostate. *Int J Urol* **8**: 83-86, 2001
- 2) Berger AP, Rogatsch H, Hoeltl L, et al.: Late penile metastasis of primary bladder carcinoma. *Urology* **62**: 145, 2003
- 3) Senkul T, Karademir K, Silit E, et al.: Penile metastasis of prostatic adenocarcinoma. *Int J Urol* **9**: 597-598, 2002
- 4) Cardoso GG, Rodrigues DSR, Paiva GGA, et al.: Penile metastasis of chondrosarcoma of the jaw. *Urology* **61**: 837, 2003
- 5) Moskovitz B, Malberger E, Keren R, et al.: Penile metastasis of testicular teratocarcinoma diagnosed by fine-needle aspiration. *Isr J Med Sci* **28**: 894-895, 1992
- 6) Cimic J, Oosterhof GO, Koot RA, et al.: Testicular teratoma with malignant transformation, presenting as squamous cell carcinoma with metastatic localization in the penile corpus cavernosum. *Br J Urol* **79**: 142-143, 1997
- 7) Hsieh JT, Liu SP, Shun CT, et al.: Metastatic yolk sac tumor of the corpus cavernosum of the penis. *J Urol* **160**: 833-834, 1998
- 8) Schmoll HJ, Souchon R, Krege S, et al.: European consensus on diagnosis and treatment of germ cell cancer: a report of the European Germ Cell Cancer Consensus Group (EGCCCG). *Ann Oncol* **15**: 1377-1399, 2004
- 9) Matuszewska K, Matuszewski M, Kowalczyk A, et al.: Penile metastasis of urogenital primaries. *Neoplasia* **49**: 346-348, 2002

- 10) Montague DK, Jarow J, Broderick GA, et al.: 2003
American Urological Association guideline on the
management of priapism. J Urol **170** : 1318-1324,

(Received on January 24, 2005)
(Accepted on April 8, 2005)

和文抄録

A Rare Case of Penile Metastasis of Testicular Cancer Presented with Priapism

稲元 輝生, 東 治人, 岩本 勇作

坂元 武, 勝岡 洋治

大阪医科大学泌尿器科学教室

持続勃起症の原因は主として、動脈性持続勃起症と静脈性持続勃起症とに分類される。これらの分類によって治療法が異なるため、その分類は重要である。分類不能な持続勃起症として経過し、治療途中で精巣

腫瘍からの陰茎転移による持続勃起症であると判明したきわめて稀な症例を経験したので報告する。

(泌尿紀要 **51**: 639-642, 2005)