UNSUSPECTED PHEOCHROMOCYTOMA OF THE URINARY BLADDER IN AN 81-YEAR-OLD WOMAN

Akio Tsutsui, Kazuya Omoto, Masatoshi Eto and Seiji Naito
The Department of Urology, Graduate School of Medical Sciences, Kyushu University

The clinical feature of bladder pheochromocytoma is usually typical, but the diagnosis is occasionally delayed because of the rarity of this neoplasm. The oldest patient previously reported is 78 years old. In this report, we present an 81-year-old woman with unsuspected bladder pheochromocytoma.

(Hinyokika Kiyo **52** : 577–579, 2006)

Key words : Bladder, Pheochromocytoma, An 81-year-old woman

INTRODUCTION

Pheochromocytomas are chromaffin cell tumors derived from the neuroectodermal tissue, and occur at any region where paraganglion tissue is found. Eighteen percent of pheochromocytomas are observed at extra-adrenal sites, and 10% of extra-adrenal pheochromocytomas are located in the urinary bladder[2]. Bladder pheochromocytoma accounts for less than 0.06% of all bladder neoplasms[3]. Bladder pheochromocytoma is most common in the 4th and 5th decades of life[1]. The symptoms induced by micturition or defecation due to an excess of catecholamines, such as hypertension, palpitations and headache, are typical clinical findings in patients with bladder pheochromocytomas[4].

CASE REPORT

An 81-year-old female presented at our hospital for a bladder tumor incidentally discovered by the abdominal echo. On physical examination, she was normotensive and demonstrated unremarkable findings. Admission laboratory values were normal. Urinalysis showed normal results. Cystoscopic examination revealed a non-papillary, non-pedunculated tumor on the anterior wall of the bladder, and the tumor appeared to be covered with the normal bladder mucosa. Computed tomographic (CT) scan revealed a 5.0 × 5.0-cm solid contrast-enhanced mass (Fig. 1). The magnetic resonance imaging (MRI) showed a demarcated mass with low signal intensity on T1-weighted image and slightly high signal intensity on T2-weighted image, and flow void was seen in the tumor. Clinical stage was considered more than T2 from CT findings. Differential diagnosis included urothelial carcinoma, rhabdomyosarcoma, malignant melanoma and mucinous adenocarcinoma, but we did not take the possibility of pheochromocytoma into consideration, because there were no clinical symptoms such as hypertention, headache, and palpitation. We decided to mark the surgical margin of the tumor under the cystoscope just before partial cystectomy, so that we could reserve adequate volume of the urinary bladder after the operation.

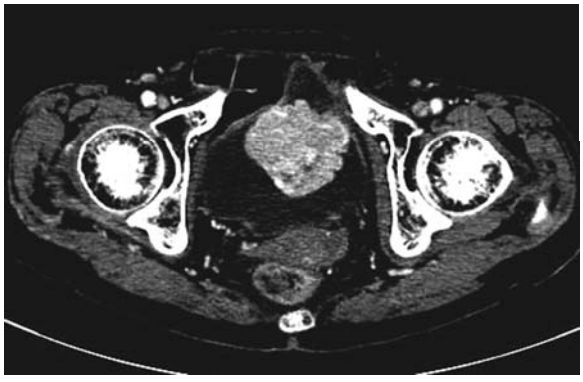

Fig. 1. Computerized tomography (CT) scan shows a contrast-enhanced mass on the anterior wall of the urinary bladder.

At the time of operation, the patient's blood pressure suddenly increased to 300/130 mm Hg, when we injected the irrigating fluid into the urinary bladder and manipulated the tumor. We suspected pheochromocytoma, and halted the procedure. Blood pressure then returned to normal within five minutes. We stopped the operation.

Careful re-examination revealed the patient had a history of hypertension at the end of micturition. The plasma epinephrine level was 493 pg/ml (normal, ≦100 pg/ml), the plasma norepinephrine level was 5,278 pg/ml (normal, 100–450 pg/ml), and the plasma dopamine level was 110 pg/ml (normal, ≦ 20 pg/ml). An iodine 131-labeled metaiodobenzylguanidine (MIBG) scintiscan was performed to assess the possibility of multifocal disease, and no extravesical uptake was noted. In preparation for removal of the tumor, the patient received a three-week treatment with α blocker. A partial cystectomy with complete extirpation was performed. During the second operation, no episodes of hypertension occurred. Convalescence was uneventful. After the second operation, the plasma catecholamine level was normalized. Histological examination confirmed bladder pheochromocytoma. Two years after the operation, there was no clinical sign of recurrence.

DISCUSSION

The most common feature of bladder pheochromocytoma is a characteristic clinical picture that results from excessive catecholamine secretion. The patient suffers from hypertensive crises that may be accompanied by headache, palpitation, hot flushes and sweating. In our case, we had difficulty in diagnosis, since such typical signs were not observed. These crises are typically provoked by micturition or overdistention of the bladder. If we had examined the patient more carefully at the initial visit, we could have diagnosed bladder pheochromocytoma with a history of hypertension at the end of micturition. In the absence of typical clinical signs of bladder pheochromocytoma, the urologist can only suspect its presence by the cystoscopic appearance of the tumor. The tumor is usually covered with the normal-appearing mucosa, and lacks the typical exophytic or ulcerative sessile appearance of transitional cell carcinoma[5]. The presence of yellowish, submucosal tumor should raise the suspicion of pheochromocytoma of the urinary bladder, and the urologist should be aware of the possible complications that may occur during tumor manipulation, predominantly transient hypertensive crises that occasionally may be lethal. Fortunately there was no complication during the hypertensive crises in our case. Retrospectively, we should have performed a tumor biopsy before the first operation.

The treatment of bladder pheochromocytoma usually consists of total excision of the tumor with partial cystectomy. Although transurethral resection of pheochromocytoma of the urinary bladder has been reported, most of these tumors might not be amenable to the transurethral surgery.

Postoperative follow-up of pheochromocytoma of the urinary bladder is a matter of controversy. A generally acceptable protocol includes yearly catecholamine analysis and iodine 131-labeled MIBG scintiscan whenever these levels exceed the normal range. It must be emphasized that lifelong follow-up is necessary, since the behavior of these tumors is unpredictable and local reccurence or distant metastasis have been reported 20 or more years after primary resection[6,7].

REFERENCES

1) Jurincic C, Gasser A, Metz KA, et al. : Pheochromocytoma of the urinary bladder. Urol Int **48** : 232–234, 1992
2) Whalen RK, Althausen AF and Daniels GH : Extra-adrenal pheochromocytoma. J Urol **147** : 1–10, 1992
3) Leestma JE and Price EB Jr : Paraganglioma of the urinary bladder. Cancer **28** : 1063–1073, 1971
4) Thrasher JB, Rajan RR, Perez LM, et al. : Pheochromocytoma of urinary bladder : contemporary methods of diagnosis and treatment options. Urology **41** : 435–439, 1993
5) Sweetser PM, Ohl DA and Thompson NW : Pheochromocytoma of the urinary bladder. Surgery **109** : 677–681, 1991
6) Piedrola G, Lopez E, Rueda MD, et al. : Malignant pheochromocytoma of the bladder : current controversies. Eur Urol **31** : 122–125, 1997
7) Das S and Lowe P. : Malignant pheochromocytoma of the bladder. J Urol **123** : 282–284, 1980

(Received on October 13, 2005
Accepted on February 5, 2006)

和文抄録

診断困難であった81歳女性，膀胱褐色細胞腫の1例

筒井　顕郎，尾本　和也，江藤　正俊，内藤　誠二
九州大学大学院医学研究院泌尿器科学分野

膀胱褐色細胞腫の臨床症状は非常に特徴的なものであるが，膀胱褐色細胞腫自体が非常に稀なものであるために時に診断が遅れることがある．これまでに膀胱褐色細胞腫として報告されている最高齢は78歳である．今回われわれは無症状のため診断が困難であった，81歳，女性に発生した膀胱褐色細胞腫の1例を報告する．

（泌尿紀要 **52**：577-579，2006）