

## A CASE OF ADENOCARCINOMA WITH CLEAR CELL CARCINOMA OF THE BLADDER

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A case of adenocarcinoma with clear cell carcinoma of the bladder in a 65-year-old male is reported. Our patient had a walnut-sized nodular tumor located on the anterior wall of the bladder. The patient underwent radical cystoprostatectomy with urethral hemi-Koch pouch. Histopathological examination revealed a lesion composed of poorly-differentiated adenocarcinoma and clear cell carcinoma with diffuse sheet patterns of cells with abundant, clear cytoplasm. The patient died of general metastasis 18 months after operation. To our knowledge this is the first case of adenocarcinoma with clear cell carcinoma arising from the anterior wall of the bladder in a male. (Acta Urol. Jpn. 45 : 637-640, 1999)

**Key words:** Clear cell carcinoma, Adenocarcinoma, Bladder

### INTRODUCTION

Primary adenocarcinoma of the bladder is the third most frequent histologic type of all bladder carcinomas, and comprises only 0.5 to 2.0%<sup>1)</sup>. Clear cell carcinoma, so-called mesonephric adenocarcinoma by Schiller<sup>2)</sup>, is an uncommon histologic variant of adenocarcinoma typically found in the female genital tract, and is rarely found in the urinary bladder. There have been only 14 reported cases of pure forms of clear cell carcinoma of the bladder<sup>4-13)</sup>. This case was a combination of clear cell carcinoma and adenocarcinoma of the bladder. Only one such case, in a woman, has been reported previously<sup>14)</sup>. We report the first case of adenocarcinoma with clear cell carcinoma of the male, and review the literature.

### CASE REPORT

A 65-year-old Japanese male with no prior urological problems was referred for evaluation of urinary frequency and gross hematuria. He had been treated for type 2 diabetes mellitus with dietary food and had been taking prazosin for treatment of hypertension. Physical examination revealed no unusual findings. Blood count and serum findings were normal. CA19-9, CEA and AFP were normal. Urinalysis showed 30 to 40 red blood cells and 10 to 15 white blood cells per high power field. Urinary cytology was unremarkable. An excretory urogram suggested a left renal cyst, which was confirmed by ultrasound and computed tomography, and showed an irregular space-occupying lesion of the bladder dome. An outpatient cystoscopic examination in May 1993 revealed a yellowish, non-papillary, nodular, pedunculated tumor on the anterior wall of the bladder. Computed tomography showed a nodular, pedunculated tumor (5×4 cm) with calci-

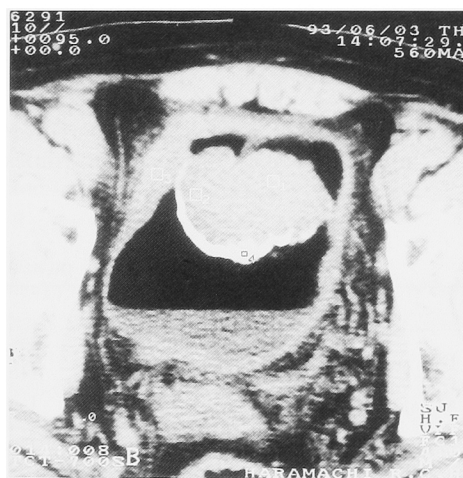


Fig. 1. Computed tomography showed a nodular, pedunculated tumor (5×4 cm) with calcification on the anterior wall of the bladder.

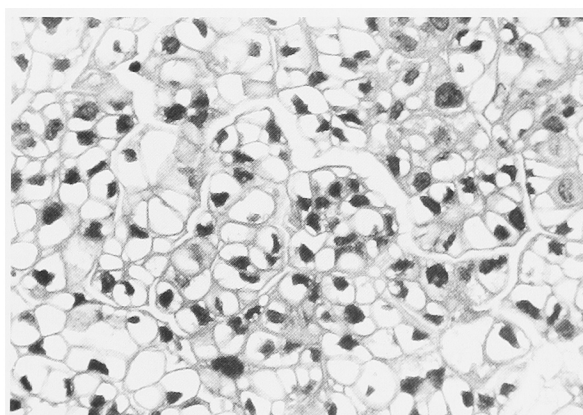


Fig. 2. Clear cell carcinoma with diffuse sheet patterns of clear cells containing abundant, clear, glycogen-rich cytoplasm surrounding the nucleus (H & E, original magnification ×400).

fication on the anterior wall of the bladder (Fig. 1). The bladder wall was not thickened. Neither lymph node metastasis nor distant metastasis was noted. A chest radiograph showed no evidence of metastasis. On June 7, transurethral resection of the tumor was performed. Microscopically, transurethral resection of the tumor revealed a combination of two components. One component was clear cell carcinoma

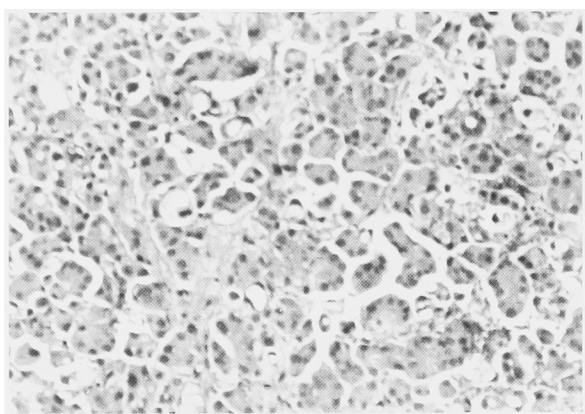


Fig. 3. Adenocarcinoma with a poorly-differentiated nonspecific glandular pattern lined by tumor cells with hyperchromatic nuclei (H & E, original magnification  $\times 100$ ).

with diffuse sheet patterns of clear cells containing abundant clear glycogen-rich cytoplasm surrounding the nucleus (Fig. 2). The other component was adenocarcinoma with a poorly-differentiated, nonspecific glandular pattern lined by tumor cells with hyperchromatic nuclei (Fig. 3). Cellular pleomorphism was minimal in both components. Invasion into the muscularis propria was seen. Random bladder biopsies were unremarkable. Because of a suspected underlying malignancy, the patient underwent radical cystoprostatectomy, and pelvic lymphadenectomy with urethral hemi-Koch pouch. No macroscopic metastasis was noted. At cystectomy, a  $4 \times 5$  cm tumor was present in the area of the anterior wall. The tumor showed poorly-differentiated adenocarcinoma. The tumor was found in the muscularis propria, but not outside of the bladder. Eleven pelvic lymph nodes were not invaded by the tumor. Immediate postoperative progress was satisfactory. The patient was discharged from the hospital on August 2. Maximal urinary flow rate was 24 ml per second, average urinary flow rate was 12 ml per second, and volume was 250 ml at 6 months postoperatively. CA19-9 increased at 8 months postoperatively. Computed tomography revealed cervical, and abdominal lymph

Table 1. Summary of 16 patients with clear cell adenocarcinoma of the bladder

No.	Case	Age	Sex	Symptom	Location	Treatment	Survival
1	Dow et al. 1968	43	M	Frequency, Hematuria	Bladder neck, rt. Lateral wall	TUR; EBRT; Radical cystectomy	DWD at 1 y.
2	Misaki et al. 1976	64	F	Urinary retention	Bladder neck	TUR; EBRT	unknown
3	Skor et al. 1977	54	F	Frequency	Bladder neck	Radical cystectomy	NED at 2 y.
4	Kanokogi et al. 1983	53	F	Gross hematuria	rt. Ureteral orifice	Radical cystectomy	DWD at 6 y.
5	Sugao et al. 1983	68	F	Gross hematuria	Posterior wall, lt. Lateral wall	Partial cystectomy	NED at 3 y.
6	Anderstrom et al. 1983	unknown	unknown	unknown	unknown	Radical cystectomy	DWD at 1 y.
7	Pegoraro et al. 1983	unknown	unknown	unknown	unknown	EBRT	NED at 2 y.
8	Schultz et al. 1984	70	F	Frequency	Bladder neck	Pelvic exenteration	NED at 10 m.
9	Mineruni et al. 1984	62	F	Gross Hematuria	Trigone, lt. Lateral wall	Pelvic exenteration	NED at 2 y.
10	Yamashita et al. 1986	62	F	Gross hematuria	lt. Ureteral orifice	TUR	unknown
11	Ikemoto et al. 1986	61	F	Gross hematuria	Posterior wall	Partial cystectomy	NED at 5 m.
12	Al-lzzi et al. 1989	62	F	Gross hematuria	Posterior wall, Trigone	Radical cystectomy	NED at 2 y.
13	Funabashi et al. 1990	73	F	Urinary retention	Bladder neck, Anterior, posterior wall	Pelvic exenteration	unknown
14	Butterworth et al. 1990	53	M	Gross hematuria	Anterior wall, lt. Lateral wall	TUR; EBRT	unknown
15	Kuwabara et al. 1993	67	M	Gross hematuria	Trigone, lt. Lateral, posterior wall	Radical cystectomy	NED at 14 m.
16	Present case 1999	65	M	Frequency, Gross hematuria	Anterior wall	Radical cystectomy Chemotherapy	DWD at 18 m.

TUR: transurethral resection of bladder tumor; EBRT: extrabeam radiation therapy, DWD: died with disease; NED: no evidence of disease.

node metastases. He received 3 courses of cisplatin and etoposide. CA19-9 decreased slightly after chemotherapy, but the patient died of generalized metastasis less than 18 months after the operation.

### DISCUSSION

Clear cell adenocarcinoma, so-called mesonephric adenocarcinoma, is an extremely rare primary tumor of the bladder. The appellation "clear cell adenocarcinoma" is used for these cases because of their histopathologic similarity to clear cell adenocarcinoma of the female genital tract. The origin of clear cell adenocarcinoma is disputed. Many reported cases have been designated as "mesonephric adenocarcinoma" despite the lack of convincing evidence for a mesonephric origin. Some investigators have proposed that clear cell carcinoma is the malignant counterpart of the nephrogenic adenoma<sup>7,15</sup>, but the arguments in support of this conception are not convincing<sup>16,17</sup>.

There have been 15 cases reported in the literature. The clinical features are presented in Table 1. There was a 5-to-2 female predominance and the age of the patients ranged from 43 to 73 years, mean 61.2 years. The tumors were located in the posterior wall, ureteral orifices, trigone, and neck of the bladder, and were of mesodermal origin (mesonephric duct). Only 2 cases were located (except for those of mesodermal origin) on the anterior and lateral wall of the bladder. Transurethral resection appears to be an inadequate treatment in most cases, and 10 patients required radical cystectomy or pelvic exenteration.

It is known that clear cell carcinoma is an uncommon histologic variant of adenocarcinoma, and is typically found in the female genital tract and rarely found in the urinary bladder. Histologically, it is composed of tubules, papillary and solid patterns in which characteristic malignant clear and hobnail cells are found in varying proportions. The consensus reflected in the more recent literature is that it is a malignancy of Mullerian origin<sup>3</sup>. Since the present case was located in the anterior wall of the bladder and had components of both adenocarcinoma and clear cell carcinoma, the origin of this case is unknown. Al-Izzi reported the only such case, in a woman, in 1989<sup>14</sup>.

In the present case, CA19-9 was normal at pre-operative evaluation, though it increased with the spread of the tumor, and decreased after chemotherapy with cisplatin and etoposide. CA19-9 was not useful for first line screening, but it is possible that a continuous follow-up of CA-19-9 may be important. A standard treatment method of clear cell carcinoma of the bladder has not yet been established. In the present case, delayed chemotherapy at metastasis could decrease CA19-9 slightly. Thus, it is possible that neoadjuvant and adjuvant

chemotherapy would be necessary in such a case.

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## 明細胞癌を伴った膀胱腺癌の1例

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65歳の男性に発生した膀胱の明細胞癌を伴った腺癌の1例を報告する。腫瘍はクルミ大で膀胱前壁に存在した。根治的膀胱全摘除術，尿道吻合ヘミコックパウチ造設術を行った。病理組織所見は明細胞癌の成分を伴った低分化腺癌であった。術後18カ月で全身転移を

きたし死亡した。腫瘍が前壁に位置し，明細胞癌と腺癌の成分を伴う腫瘍は非常に珍しく本症例が最初の報告である。

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