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PRIMARY RETICULUM CELL SARCOMA OF THE URETER: REPORT OF A CASE

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INTRODUCTION

Primary sarcoma, although capable of invading any tissue or organ of the human body, is rarely found in the ureter. The clinical reports of primary sarcoma of the ureter could be found in the literature (Table 1). This is the first reported case of primary reticulum cell sarcoma of the ureter in the Japanese literature.

CASE REPORT

E. M., a 48-year-old married Japanese woman had one year history of right lumbar colic. During an acute episode on August 15, 1974, the pain was initially intermittent and progressed in intensity with accompanying nausea and vomiting. She was treated by the LMD who relieved the pain and noted the absence of fever and urinary frequency. On August 23 rd, she visited the Department of Urology OPD, Wakayama Medical College Hospital. Her past medical history was negative and she had no record of serious illness, accident or operation. Maternal mother died of cancer of the uterine cervix. The patient has three healthy children.

Physical examination revealed a well developed, obese woman. Menstrual cycle was irregular. Lymphadenopathy was negative and thorax, lung, heart and abdomen showed no changes. Blood pressure was 130/90 mmHg and TPR were normal. All other physical signs were normal. Laboratory tests were negative except for a 1% atypical lymphocyte count in the peripheral blood (Table 2).

Abdominal x-rays showed no abnormalities or shadow indicating calculus. An IVP (Fig. 1), however, showed a right hydronephrosis with the right ureter kinking as it crossed the right iliac vessels to the lower portion. Cystoscopy revealed normal bladder mucus membrane and catheterization of the right ureter was blocked 3 cm from the orifice.

The patient was diagnosed as probably having a tumor mass in the right ureter. She was admitted ambulatory to the hospital on Nov. 20, 1974. The following day a right total nephroureterectomy was performed under general anesthesia.

OPERATIVE FINDINGS

Laparascopy and liver biopsy findings were negative. The right ureter was tightly adhered to the surrounding tissue 3~4 cm from the crossing of the iliac artery. A large abdominal venous vessel was adhered to the front of the ureter. The ureter was solid on palpation. The kidney and ureter removed are shown in Fig. 2.

PATHOLOGICAL FINDINGS

Gross pathology of the kidney and ureter showed a solidly developed tumor mass about 5 cm in length which had invaded the lower portion of the ureter to the ureterovesical junction (UVJ). The lumen of the ureter was remarkably narrow at the UVJ and the upper portion of the mucosa revealed small spots compatible with hemorrhage.

Microscopically, the transient phase between normal and tumor tissue was seen (Fig. 3A), with the border line moderately clear but the normal mucosa being invaded

Table 1. Cases of primary sarcoma of the ureter.

	Reporter	Year	Age and Sex	Location	Histological Classification
1.	Ribbert (Virch. Arch., 106;282)	1886	4-F	Rt-renol pelvis into ureter	spindle cell sarcoma (myosarcoma)
2.	Willutzky (Inang. Dissert. Königsberg)	1891	25-M	Lt-ureter	alveolar sarcoma
3.	Targett (Tr. Path. Soc. Rond., 43;92)	1891	46-M	Rt-ureter	round cell sarcoma
4.	Wötzen (Zbl. Path., 35;297)	1924	71-M	Lt-ureter	leiomyosarcoma
5.	Djeng-Yan Ku (Centralbl. F. Allg. Path., 35;549)	1924	71-M	Lt-ureter	fibromyoma (polymorpho-cellular sarcoma)
6.	Weinstock (Wien, Klin. Wschr., 11;316)	1926	47-M	Lt-ureter	leiomyosarcoma
7.	Neumirth (Zeitschr. f. Urolog. Chir., 25;477)	1928	51-F	Lower 1/3 of ureter	spindle cell sarcoma
8.	Renner (S.G.O., 52;793)	1931	71-M	Rt-ureter	carcinosarcoma (polymorpho-cellular sarcoma)
9.	Bergendahl (Acta. Chir. Scond., 74;179)	1934	28-M	Lt-ureter	polymorpho-cellular sarcoma
10.	Rademorker (Amer. J. Surg., 61;402)	1943	59-F	Lt-ureter	leiomyosarcoma
11.	Kraus (Urol. & Cutan. Rev., 48;522)	1944	48-M	Rt-ureter	leiomyosarcoma
12.	Rossien (Arch. Path., 41;655)	1946	55-F	Rt-ureter	leiomyosarcoma
13.	Zohorsky (Rozhl. Chir., 31;27)	1952	62-F	Rt-ureter	leiomyosarcoma
14.	Alznauer (Arch. Path., 59;94)	1955	60-F	Rt-ureter	leiomyosarcoma
15.	Werner (J. Urol., 82;68)	1959	60-F	Lt-UPJ	leiomyosarcoma
16.	Klingenschmith (J. Urol., 82;68)	1959	60-F	Rt-UPJ	leiomyosarcoma
17.	Höger (Zeit. rol., 58;701)	1965	77-F	Lt-ureter	leiomyosarcoma
18.	Richard (J. Urol., 93;684)	1965	76-F	Rt-ureter	hemangiosarcoma
19.	Ito (Dermatologica et. Urologica., 20;1283)	1966	67-F	Rt-ureter	leiomyosarcoma
20.	Watanabe (Jap. J. Urol., 58;891)	1967	53-M	Lt-ureter	leiomyosarcoma
21.	Bramwit (Radiology., 96;421)	1970	62-M	Lt-ureter	reticulum cell sarcoma (primary?)
22.	Shah (J. Urol., 105;515)	1971	60-F	Lt-UPJ	leiomyosarcoma
23.	Tanaka (Nishinihon J. Urol., 34;298)	1972	60-F	Rt-UPJ	leiomyosarcoma

Table 2. Clinical laboratory study records.

Blood Chem.		Hematological Exam.		Urinalysis	Immunological Exam.
Total Protein	7.53 mg/dl	RBC	491×10^4	Albumin (−)	Immunoelectrophoresis n.p.
Uric Acid	3.5 mg/dl	WBC	4400	Glucose (−)	Peripheral lymphocytic
Creatinine	0.90 mg/dl	Hb	14.1 g/dl	pH 5.5	blastoid transformation (by PHA)
Total Cholesterol	210 mg/dl	Haemogram			62.5% (cont. 63.1 ± 6.0%)
Total Bilirubin	0.6 mg/dl	Stab.	1 %	Urine Sediment	E-Rosettes test
ALP	9.3 K-Au	Seg.	43	RBC (++~+++) 20~30/1f	56.8% 570/cu.mm
SGOP	21 Ka-u	Eos.	1	WBC (−)	cont. (56.6 ± 12.6%)
SGPT	9 Ka-u	Baso.	2	Epithelial cell (+)	
SLDH	357 W.U.	Lymph.	47	Cast (−)	
CRP	(−)	Mono.	5	Bacteria (−)	
α-fetoprotein	(−)	At. lymph.	1	Papanicolaou I ~ II	

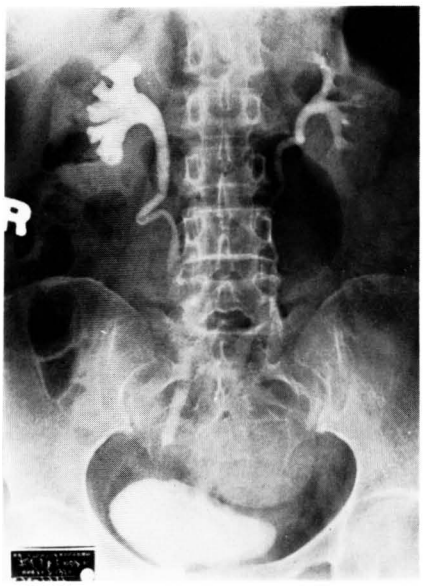

Fig. 1. IVP showed hydronephrosis on the right side.

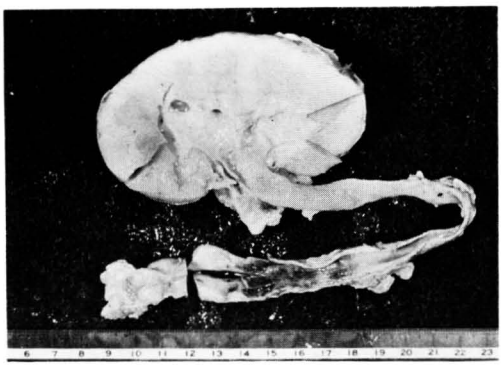

Fig. 2. The specimen showed a solid mass of about 5 cm in diameter which invaded lower portion of the ureter to UVJ.

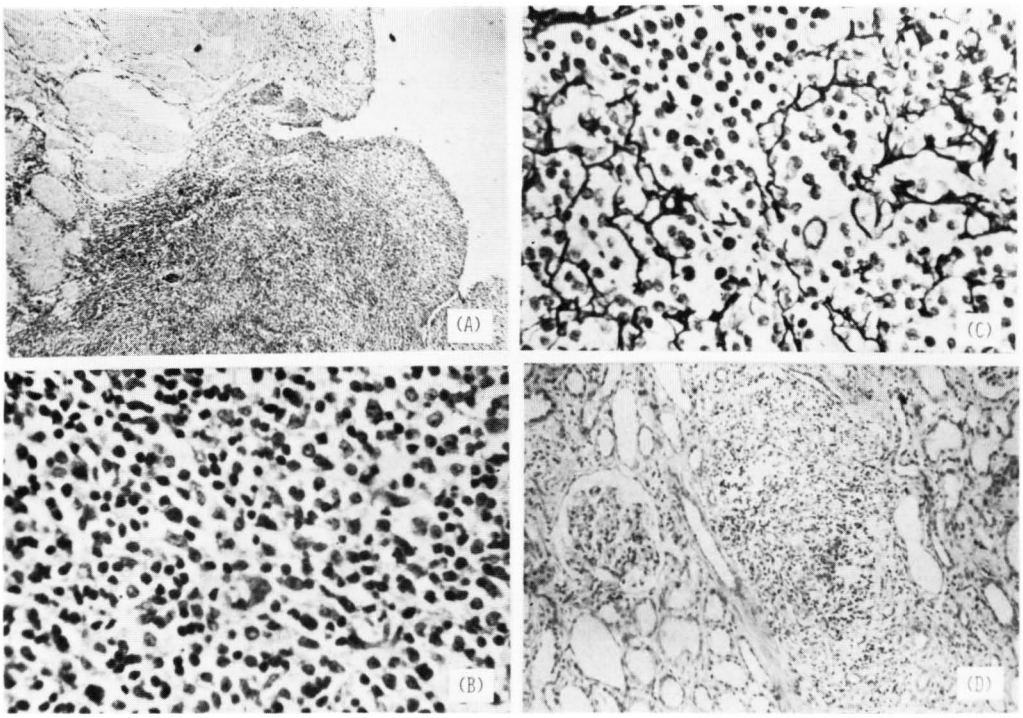

Fig. 3. (A) : the transient phase of normal to tumor tissue (low power)
(B) : tumor cells (high power)
(C) : silver impregnation
(D) : kidney

by tumor. These tumor cells showed infiltration from the muscular layer to the serous membrane. They were characterized by a small and round nucleus consisting of a moderate degree of chromatin with a reticular and rough granular pattern. Cystoplasm was rather inconspicuous (Fig. 3B). Rarely, one to two eosinophilic nucleoli were observed. Fig. 3C shows the fine reticular formation which appeared under silver impregnation and abundantly extended to the adjacent tumor cells. From this finding, the tumor was classified as a reticulum cell sarcoma. Fig. 3D shows hyaline casts and development of the distal tubuli in the medulla of the kidney. The kidney cortex showed small scar tissue with infiltration of round cells and a few sarcoma cells.

DISCUSSION

Non-epithelial tumors of the ureter have rarely been noted in the literature since the first case of a spindle cell sarcoma (myosarcoma) with primary origin in the renal pelvis was reported by Ribbert[1] in 1886. A case of round cell sarcoma was reported by Targett and Meller[3] in 1891 and in 1943 Rademarker[10] published a description of five cases of sarcoma. Kraus [11] in 1944 published a clinical description of a reticulum cell sarcoma, although Schlumberger documented this as a secondary sarcoma infiltrating tissue surrounding a sarcoma. Bramwit[21] in 1970 clinically described a case of reticulum cell sarcoma similar to Kraus' report. Kitayama collected 166 Japanese cases of primary ureteral tumor including a case of squamous cell carcinoma with fibrosarcoma of the ureter reported by Sakata.

Although we can find no reported cases of primary reticulum cell sarcoma of the ureter, we are familiar with secondary reticulum cell sarcoma because of its tendency to invade the ureteral tissue. Invasion to the bladder or ureter have been reported in cases of lymphosarcoma, reticulum cell sarcoma and Hodgkin's disease.

In this case, the lymphatic system of the patient showed no remarkable changes, therefore final diagnosis was made as primary reticulum cell sarcoma of the ureter.

SUMMARY

An unusual case of primary reticulum cell sarcoma of the ureter in an otherwise healthy Japanese woman is reported. Three years after total nephroureterectomy the patient is well without evidence of metastasis and without cancer chemotherapy.

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和文抄録

原発性尿管細網肉腫の1症例

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患者は48歳の主婦で主訴は右側腹部疝痛で，ちょうど初診の約1年前にも同様の痛みを覚えたことがあった．

レ線および膀胱鏡検査では結石像はなく，右腎は水腎症を呈し，右尿管カテーテル挿入は 3 cm までであった．膀胱粘膜は正常であった．

1974年11月21日，右腎尿管全摘出術を施行した．病理所見は，原発性尿管細網肉腫であった．術後抗癌剤を使用せず，3年が経過したが現在のところ転移の所見はない．

本論文訂正

Table 2. 第1欄第2段 mg/dl を g/dl に訂正します．