

Urology Division

Introduction

In the Urology Division, all of the urogenital malignant diseases (kidney cancer, urothelial cancer, prostate cancer, and testicular germ cell tumors) are diagnosed and treated with radical surgery, irradiation, sometimes in combination with chemotherapy. We also provide palliative care during the terminal stage of the disease.

Routine Activities

The urology team consists of four staff doctors and three residents. In addition, with medical oncologists, multi-disciplinary treatments for advanced disease including metastatic kidney cancer, hormone refractory prostate cancer and metastatic germ cell tumor, are performed. Daily morning rounds are started at 7:30. A clinical conference to discuss inpatients is held on Monday evenings. A clinico-pathological conference and a urological consensus meeting are held on alternative Wednesday.

Major urological malignant diseases are treated according to the following strategies:

- (1) Renal cell carcinoma. M0: partial or radical nephrectomy. M1: immunotherapy with interferon, with or without palliative nephrectomy.
- (2) Bladder cancer. Carcinoma in situ: BCG instillation therapy. Ta, T1: transurethral resection of bladder tumors (TUR-Bt), often combined with preoperative or postoperative BCG instillation. T2, T3: radical cystectomy with or without neoadjuvant chemotherapy by a combination of MTX + VBL + ADR + CDDP. In some limited T2N0M0 cases, bladder-preserving therapy is adopted. T4, N(+): systemic chemotherapy, radiation; sometimes urinary diversion alone.
- (3) Prostate cancer. T1c and T2a/2b with clinically insignificant cancer: various options such as watchful waiting, radical prostatectomy, radiation, and hormonal therapy are explained to the patients. A final treatment plan is decided upon after sufficient discussion with the patient. T2, T3N0M0: radical prostatectomy or radiation therapy combined with neoadjuvant endocrine therapy. N(+), M1: endocrine therapy and radiation.
- (4) Testicular germ cell tumor (GCT). Stage I: careful watching irrespective of pathological element. Stage II or higher stages: EP (etoposide + CDDP) chemotherapy is the first line. The residual tumor is resected in nonseminomatous cases. In seminoma cases,

careful watching rather than surgery is preferred. Patients who have large tumor burden are treated with a combination of ultra-high-dose chemotherapy with autologous peripheral blood stem cell transplantation (PBSCT).

Research Activities

We are constantly seeking improved treatments for urological malignant tumors.

1. Renal cell carcinoma: We have established a more precise preoperative diagnosis by using a combination of various imaging systems, such as CT scan, ultrasonography, and MRI. The next study is aimed at the establishment of diagnosis criteria for atypical renal cell carcinoma and miscellaneous tumors with relatively low incidence.

2. Bladder cancer: We are reviewing the effectiveness of neoadjuvant / adjuvant M-VAC therapy for T2-4N0M0 bladder cancer. Neobladder formation after cystectomy is the main mode of urinary tract reconstruction after cystectomy. The neobladder is evaluated continuously, in terms of function and physiology. Indications for selecting appropriate patients for this mode of surgery were established by analyzing the risk factors for synchronous anterior urethral involvement of bladder cancer. Patients having CIS in the prostatic urethra should accept simultaneous urethrectomy at the time of cystectomy for bladder cancer because they are at high risk for anterior urethral cancer.

3. Prostate cancer: A more sophisticated prostate biopsy system was established by analyzing the efficacy and reliability of the classical sextant biopsy. Patients with small, well-differentiated adenocarcinoma are defined as "insignificant cases". Various treatment options, including watchful waiting (W/W), are explained to these patients. The clinical meaning of W/W will be evaluated after a sufficient follow-up period. For patients with locally invasive cancer, radical prostatectomy or external beam radiation combined with neoadjuvant endocrine therapy is selected. For local advanced prostate cancer (specimen-confined disease), we developed a new operation method (extended radical prostatectomy) to conform complete resection of the tumor. Postoperative PSA failure rate in T3N0M0 prostate cancer is 9% in the new method. For the patients treated by conformal radiotherapy, the indication of adjuvant continuous or intermittent hormone therapy will be analyzed.

4. Testicular germ cell tumor: Advanced and/or refractory cases are treated with high-dose systemic chemotherapy supported by PBSCT. "Desperate operation" for advanced cases without normalized tumor marker was tried, and its efficacy and clinical significance are evaluated.

Clinical Trials

1. A pilot study of allogenic peripheral blood stem cell transplantation for metastatic renal cell carcinoma
2. A phase II study of S-1 for metastatic renal cell carcinoma
3. A phase III study of radical cystectomy with or without neoadjuvant M-VAC for muscle invasive bladder cancer. JCOG0209

4. A pilot study of maintenance M-VAC (CDDP, MTX, TPH-ADM, VBL) administered every 2 months for metastatic bladder or renal pelvic cancer
5. A phase II study of weekly CBDCA+PTX for M-VAC refractory metastatic urothelial cancer
6. A phase II study of watchful waiting for clinically insignificant prostate cancer.
7. A phase III randomized prospective study for T3-4N0M0 prostate cancer treated by irradiation with/without adjuvant endocrine therapy
8. A phase I study of antrasentan administration for hormone refractory stage D2 prostate cancer
9. A pilot study of PTX+ADM for CDDP refractory metastatic germ cell tumor.

● H. Fujimoto ●

Patients Statistics

Operative Modes (Common modes only)

Representative modes	1998	1999	2000	2001	2002	2003
Total cystectomy	11	35	26	32	39	40
Radical prostatectomy	42	38	51	82	98	102
Radical nephrectomy(partial nephrectomy)	50	40	52	55	72	63
Rephroureterectomy	5	9	11	14	18	24
Retroperitoneal lymphadenectomy	6	9	10	12	19	19
TUR-Bt	121	129	138	171	166	173
Prostatic biopsy	126	101	154	200	217	350
Miscellaneous	64	60	31	21	39	20
Total	425	421	473	587	668	791

Treatments (majority) including chemotherapy

