

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.

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 renal cancer, hormone refractory prostate cancer and metastatic germ cell tumor, are performed. The morning round starts every day at 7:30 a.m. A clinical conference to discuss inpatients is held on Monday evenings. A clinicopathological conference is 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 IFN with or without palliative nephrectomy.
- (2) Bladder cancer. Carcinoma in situ: BCG instillation therapy. Ta, T1: transurethral resection of bladder cancer (TURBT), often combined with preoperative or postoperative BCG instillation. T2, T3: radical cystectomy with or without neoadjuvant chemotherapy by M-VAC regimen. N+: systemic chemotherapy, radiation; sometimes urinary diversion alone. M+: chemotherapy with M-VAC regimen
- (3) Prostate cancer. Organ confined disease: watchful waiting, or radical prostatectomy, or irradiation, or endocrine therapy. Specimen confined disease: radical prostatectomy with neoadjuvant endocrine therapy, or radiation therapy with/without endocrine therapy, or endocrine therapy alone. M1 disease: endocrine therapy and palliative radiation if necessary.
- (4) Testicular germ cell tumor (GCT). Stage I: careful watching irrespective of pathological element. Stage II or higher: EP (etoposide + CDDP) chemo-therapy as the first line. In nonseminomatous cases, salvage operation after induction chemotherapy. In seminoma cases, careful watching rather than surgery.

Research Activities

We are constantly seeking improved treatments for urological malignant tumors.

1. Renal cell carcinoma: Improvement of treatment outcome in metastatic renal cell carcinoma has been remained as a

major problem. Combination immunotherapy with IFN and IL-II has been performing experimentally. Allogenic peripheral blood stem cell transplantation for clear cell renal cell carcinoma also has been performed under the cooperation of a stem cell transplant group. A new phase II study using Raf and VGF inhibitor will be enrolled.

2. Urothelial cancer: In superficial bladder cancer, genetic analysis of the allelic loss has been performed with multi-institutions. The effectiveness of neoadjuvant / adjuvant M-VAC therapy for T2-4N0M0 bladder cancer are reviewing and a phase III study to confirm the efficacy of neoadjuvant M-VAC therapy for T2-3N0M0 bladder cancer (JCOG0209) is carried out now. Long-term functional and physiological conditions of neobladder are evaluated continuously. For metastatic disease, weekly CBDCA+PTX regimen or GEM regimen have been indicated.

3. Prostate cancer: 12 core prostate biopsy, established by analyzing the mapping data of cancer location from the radical prostatectomy specimens, has been checking its validation now. In cases with small and well-differentiated adenocarcinoma defined as "insignificant cancer", watchful waiting (W/W) monitoring PSA-doubling time is adopted. In the cases with PSA-doubling time more than 24 months and favorable pathological results by re-biopsy 1 year later, the surveillance with every 3 months' PSA monitoring have been continued. A new operative method to accept complete surgical margin (extended radical prostatectomy) had been developed, and combining 6 months' neoadjuvant endocrine therapy, the efficacy in the specimen confined disease has been evaluated. Moreover, in local advanced disease, a phase III study to evaluate the survival benefit of continuous endocrine therapy after 3D conformal radiotherapy is continued. For hormone refractory prostate cancer, a new chemotherapy with DTX will be start.

4. Testicular germ cell tumor: Advanced and/or refractory cases: A combination of ultra-high-dose chemotherapy with autologous peripheral blood stem cell transplantation (PBSCT) after induction chemotherapy are indicated. So-called "desparate operation", designed in the case whose tumor marker did not normalize after induction chemotherapy, was established its efficacy and clinical significance. For CDDP refractory germ cell tumor, a phase II study using PTX+ADM was started.

Clinical Trials

We are involved in ongoing protocol studies as follows;

1. A phase II study: Allogenic peripheral blood stem cell

transplantation for metastatic renal cell carcinoma

2. A phase II study: BAY 43-9006 for metastatic renal cell carcinoma
3. A phase III study: Radical cystectomy with/without neoadjuvant M-VAC for muscle invasive bladder cancer (JCOG0209)
4. A phase II study: Weekly CBDCA+PTX for M-VAC refractory metastatic urothelial cancer
5. A phase II study: LY188011 (GEM) for M-VAC refractory metastatic urothelial cancer
6. A phase II study: Watchful waiting for clinically

insignificant prostate cancer

7. A phase III study: T3-4N0M0 prostate cancer treated by irradiation with/without adjuvant endocrine therapy
8. A phase I study: ABT-627 (antrastentan) for hormone refractory stage D2 prostate cancer
9. A phase II study: RP56976 (DTX) for hormone refractory stage D2 prostate cancer
10. A phase II study: PTX+ADM for CDDP refractory metastatic germ cell tumor.

● H. Fujimoto ●

Treatment	1998	1999	2000	2001	2002	2003	2004
Radical/partial nephrectomy	44	47	51	55	72	63	20
Rephroureterectomy	4	9	11	10	18	24	12
Total cystectomy	11	23	21	32	39	40	54
TURBT	105	129	138	171	166	173	183
M-VAC		21	36	108	110	120	96
Radical prostatectomy	41	38	51	82	98	102	162
Prostatic biopsy	124	101	154	200	217	350	416
High orchectomy		5	7	14	13	19	11
Retroperitoneal lymphadenectomy	7	9	10	12	19	20	15
Chemotherapy for testicular cancer	6	11	11	13	14	17	10
	342	393	490	697	766	928	979

