

Department of Urology

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General Summary

We performed both basic and clinical research in the following areas: oncology, involving such sites as the kidney, bladder, prostate and testes; anatomy, physiology, and pharmacology of the bladder and urethra; imaging and radiology; infections and inflammation of the genitourinary tract, such as interstitial cystitis and prostatitis; infertility; andrology and sexual function; urolithiasis; technology and instruments, such as laparoscopy; transplantation; neurourology; and female urology, such as benign prostatic hyperplasia, overactive bladder, neurogenic bladder, stress urinary incontinence, and pelvic floor prolapse.

Research Activities

1. Basic research: We performed several studies to elucidate the biology of urological malignancies, the mechanisms of voiding, and the pathophysiology of interstitial cystitis. Most studies were presented at the annual meetings of the Japanese Urological Association and the American Urological Association. These projects are as follows.

- 1) Establishment and biological analysis of our new prostate cancer model, named JDCaP, derived from a Japanese patient
- 2) Study of the incidence of latent prostate cancer
- 3) Analysis of circulating tumor cells in castration-resistant prostate cancer
- 4) Analysis of the mechanism of cross-sensitization between the colon and bladder via stimulation of the transient receptor potential cation channel ankyrin 1 receptor in the colon or bladder in rats
- 5) Reduced expression of estrogen receptor alpha in the bladder of patients with interstitial cystitis or bladder pain syndrome

2. Clinical research: Several clinical studies are on going in our institution. The results of several studies have already been reported at the annual meetings of the Japanese Urological Association and the American Urological Association.

- 1) Study of deep venous thrombosis after urological surgery
- 2) Prospective study of the efficacy of the sacral epidural block versus the pelvic plexus block for transrectal prostate needle biopsy
- 3) Clinical study of sentinel lymph-node dissection for prostate and bladder cancer
- 4) Search of biomarkers for detecting interstitial cystitis/bladder pain syndrome

Publications

Zlotta AR, Egawa S, Pushkar D, Govorov A, Kimura T, Kido M, Takahashi H, Kuk C, Kovylinina M, Aldaoud N, Fleshner N, Finelli A, Klotz L, Lockwood G, Sykes J, Kwast Tv. Prevalence of inflammation and benign prostatic hyperplasia on autopsy in Asian and Caucasian men. *Eur Urol*. 2014; **66**: 619-22.

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Matsumoto H, Haga K, Ohno I, Hiraoka K, Kimura T, Hermann K, Kasahara N, Anton P, McGowan I. Mucosal gene therapy using a pseudotyped lentivirus vector encoding murine interleukin-10 (mIL-10) suppresses the development and relapse of experimental murine colitis. *BMC Gastroenterol*. 2014; **14**: 68.

Reviews and Books

Yoshimura N, Ogawa T, Miyazato M, Kitta T, Furuta A, Chancellor MB, Tyagi P. Neural mechanisms underlying lower urinary tract dysfunction. *Korean J Urol*. 2014; **55**: 81-90.

Kiyota H, Tanaka K. Acute epididymitis, acute/chronic bacterial prostatitis (in Japanese). *Nihon Ishikai Zasshi*. 2014; **143** Suppl2: S222-6.

Suzuki Y. Abdominal pain due to urogenital disease (in Japanese). *Nihon Ishikai Zasshi*. 2014; **143** Suppl1: S272-3.

Kimura T. Salvage prostatectomy for radiation-recurrent prostate cancer (in Japanese). *Hinyoki Geka*. 2014; **27**: 159-64.