What is Basic research?

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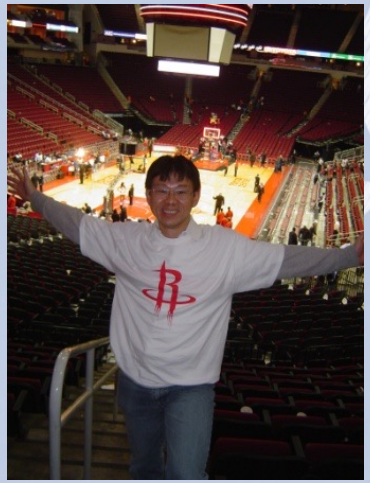
Department of Surgery, Ramathibodi Hospital,
Mahidol University

Oct 3, 2022

Objective

- **Understand basic research**
  - **To exchange our idea and experience**



Outlines

What is basic research?

Discovery of the world of research

Molecular Biology for Surgeon

My research and awards

Types of Research

Basic Research

- What is it?
- Who dose it?
- How dose it benefit us?

Basic Research

Also known as

- Fundamental research
- Pure research

Is carried out to

- increase understanding of fundamental principles.

Basic Research

- Many times the end results — No direct or immediate commercial benefits
- Arising out curiosity
- However, in the long term — The basis for many commercial products and applied research
- Mainly carried out by Universities

Basic Research

Expands

- **our knowledge and leads to innovation**

Blurred boundaries between

- **Applied and basic researching**

Is also applied research

Outlines

What is basic research?

Discovery of the world of research

-PhD course and Research fellow

Molecular Biology for Surgeon

My research and awards

Discovery of the world of research 1999-2007 (11 Years)

PhD Course and Research Fellow

Sompol Permpongkosl, MD, PhD

Yrs	Thailand
1984-1989	M.D. Pramongkutklao College of Medicine
1989-1991	Degree of Bachelor of Public Health: - Sukhothai Thamathirat University
1992-1995	Diploma of Urology Surgery: Chulalongkorn Unoversity
	Study Abroad
1999-2002	Osaka University, Japan: **Basic Research**
2002-2003	USA and France
2004-2008	John Hopkin University, USA

Study Abroad Japan

- **PhD Course**
  - **Osaka University Medical School (4 Years)**
    - **October 1999-August 2002**

Certificate of permission of advance clinical training from Minister of Health, Labor and Welfare of Japan

Osaka University Hospital

Osaka Medical Institute for Maternal and Child health

Osaka Medical Center for Cancer and Cardiovascular disease

Minoh City Hospital

Elective Study in USA and France (September 2002-April 2003)

USA

- **Johns Hopkins University School of Medicine**
- **Indiana University School of Medicine, Indiana**
- **Einstein College of Mediicine, NewYork**
- **The Cleveland Clinical foundation**

France

- **Institute Montsouris, Paris**
  - **Diploma of Laparoscopic Surgery**
- **Hositaux University, Strasbourg**

Study in USA (2004-2007)

Post Doctoral Fellow Endourology, USA

- **Johns Hopkins University, Baltimore, Maryland**
- **Baylor College of Medicine, Houston, Texas**

Visiting Professor (May 2007)

- **Department of Urology, School of Medicine, University of California, San Francisco, CA**

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Osaka University

大阪大
OSAKA UNIV

Urology

- Transplantation
- Tumor
- Andrology
- Stone

Department of Gene Therapy

Doctor of Philosophy (PhD)

- **Starting the research process**
- **Selected strategies of research**
- **Report your work**
- **Elective study in USA, France**

Starting the Research Process

- From Idea to results
- Orienting and Reforming an idea
- Formulating and writing a detailed protocol
- Prepare a formal research grand application

From Idea to results

- **Good Research ideas**
  - **Rare and Priceless treasures**
- **Clinical Observation**
  - **Fruitful hypothesis**
- **Reviewing the literature**
  - **We cannot evade**
- **No one want to**
  - **Repeat work already done**
  - **Repeat mistakes others have already made**

Orienting and Reformulating and idea

THROUGH ISSUE

ETHICAL PRINCIPLE

STATISTICAL CONSIDERATION

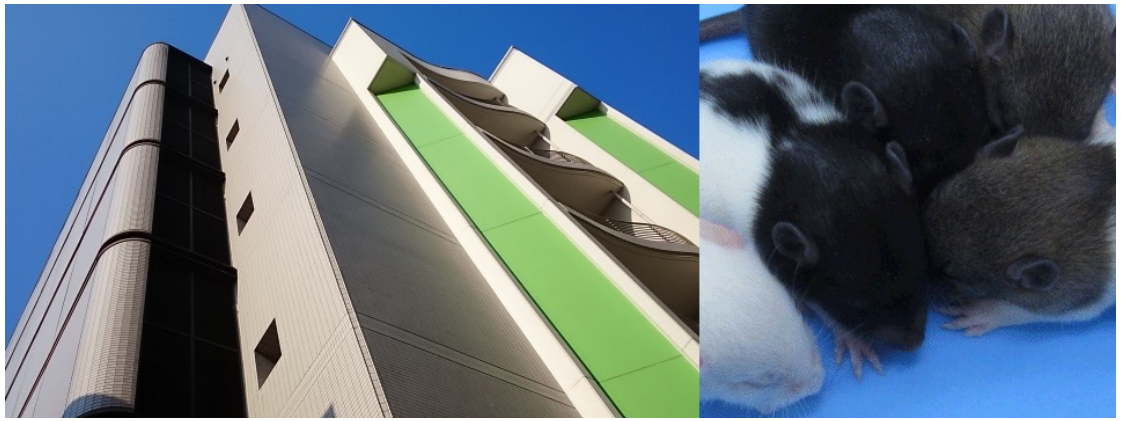
Systematically reviewing previous work

- **Approach to reviewing the literature**
- **Conducting the research**
- **Selecting studies for inclusion**
- **Presentation of results**

Approach to reviewing the literature

- **Chief and Junior**
- **Braind storm**
- **Social Media**
- **Meta-analysis**
- **Conference and meeting**

Strategies of Research

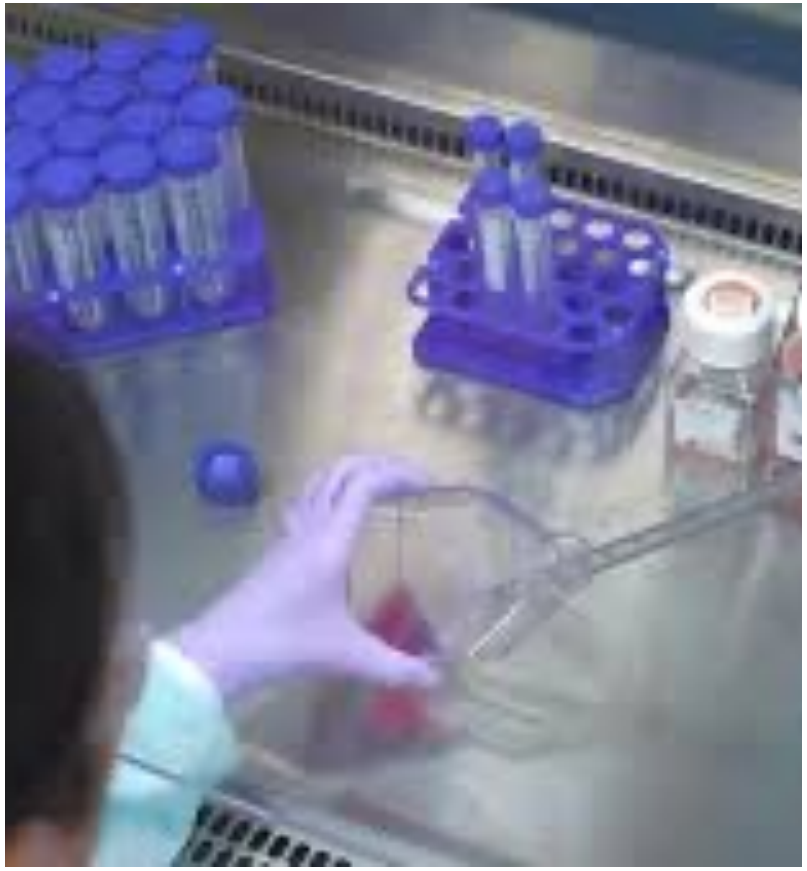


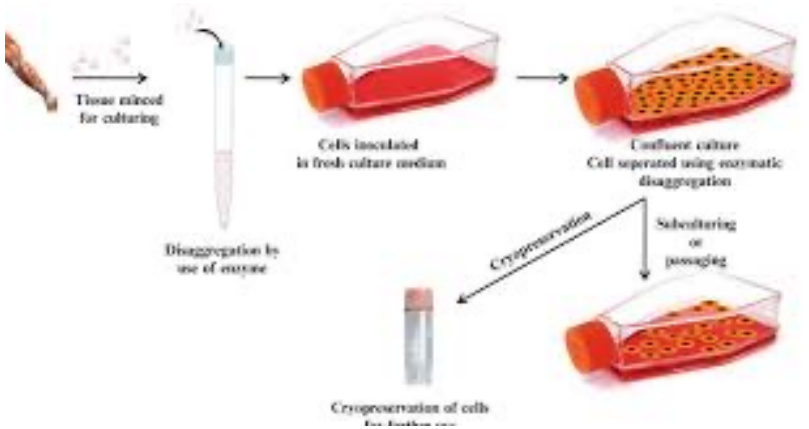
No text book

Experiment

Molecular biology

Animal Experiments





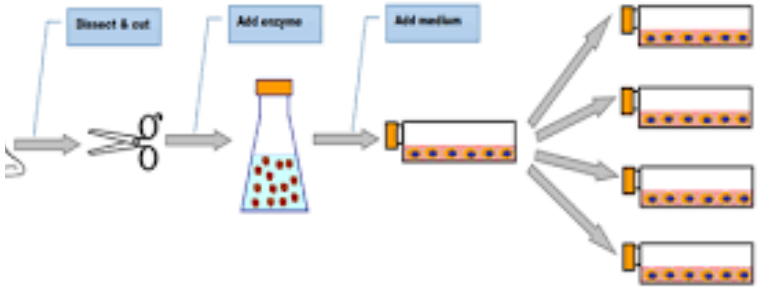
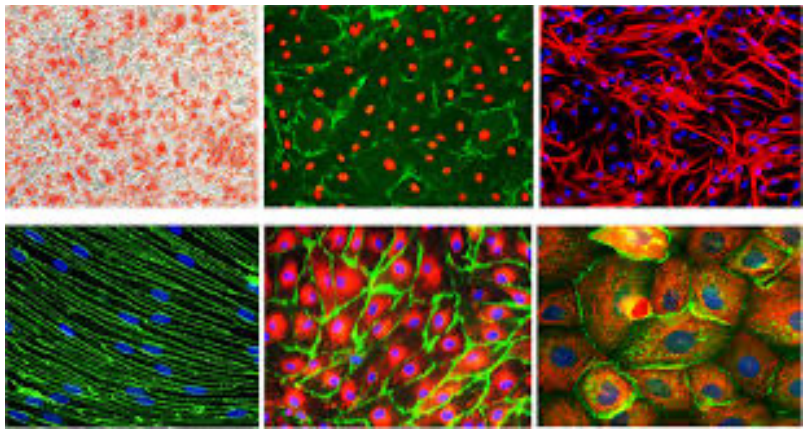
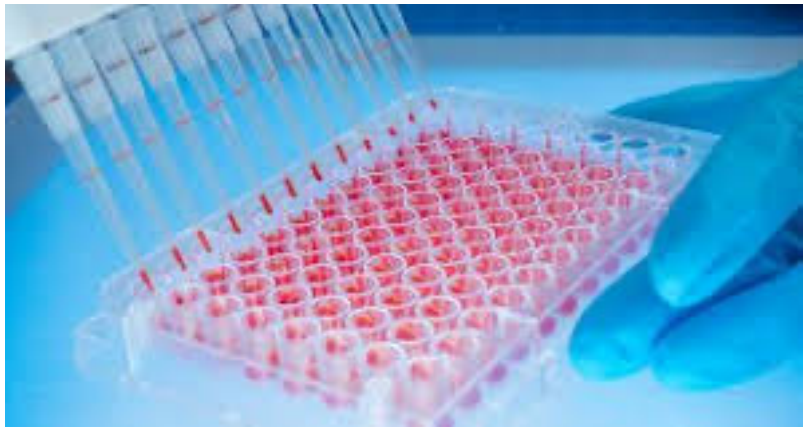


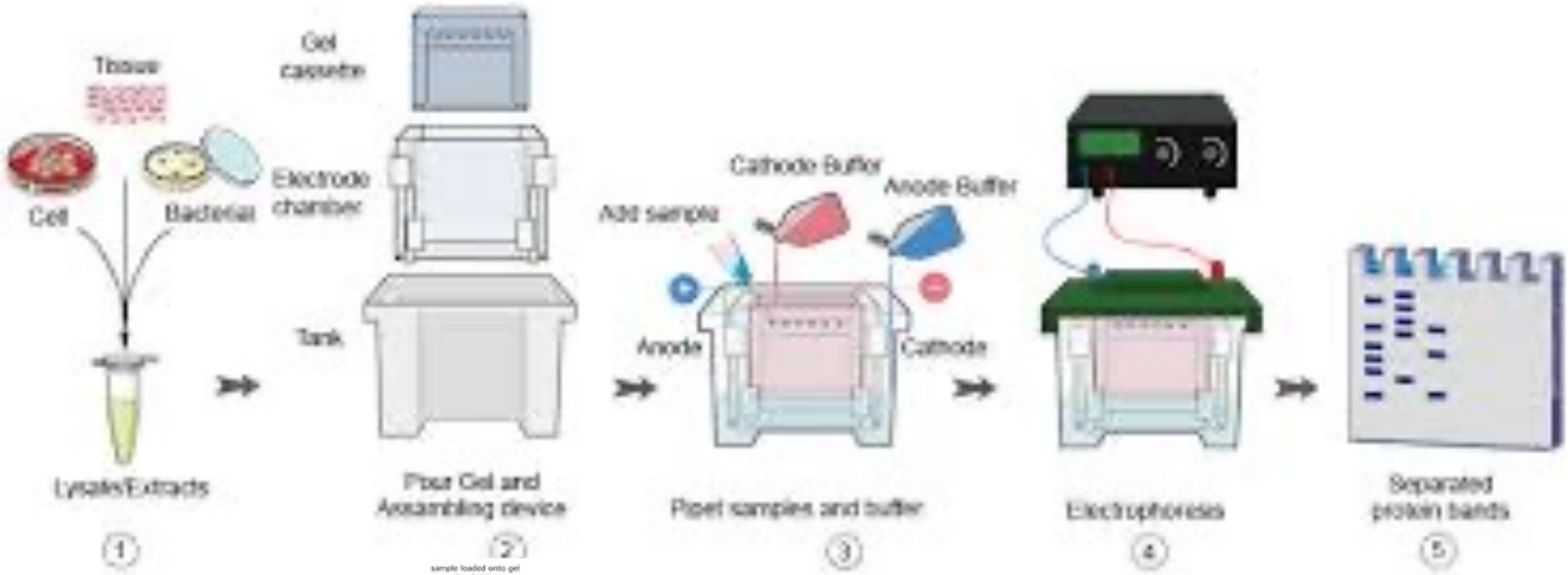
Fig1： the flow chart for primary cell culture

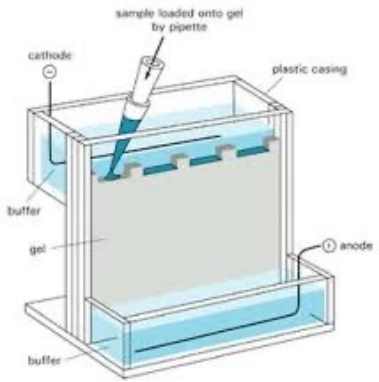


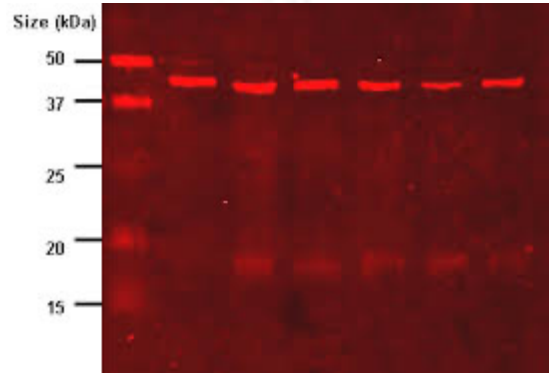


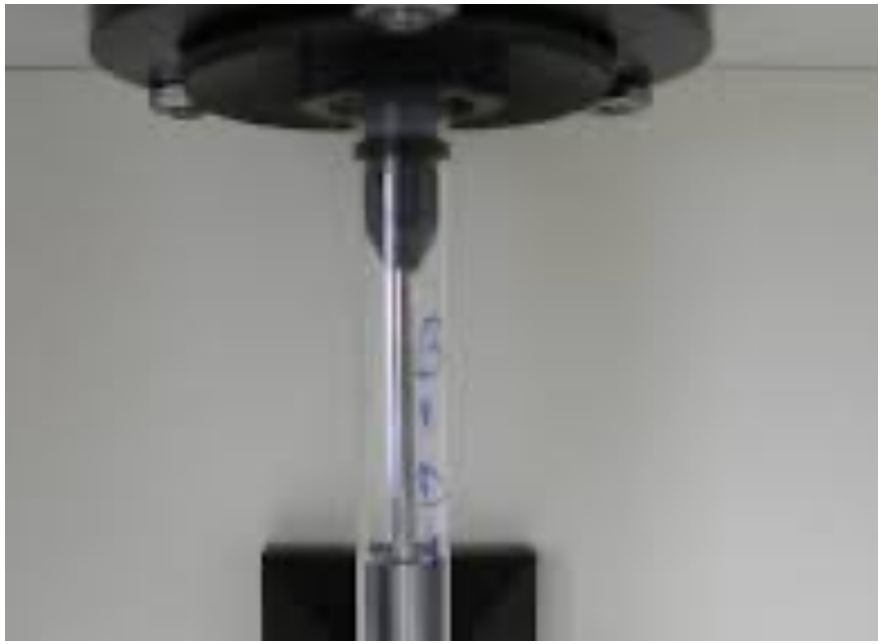
Cell Culture

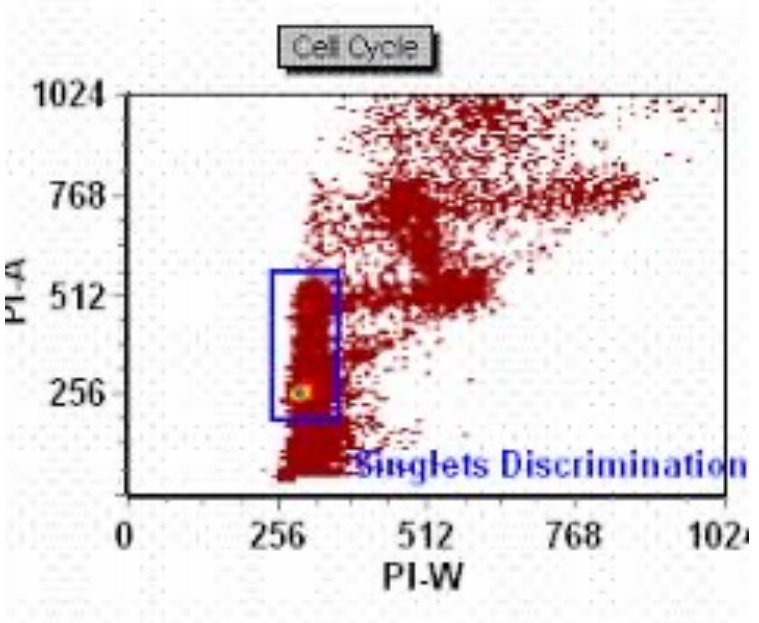
Western Blot

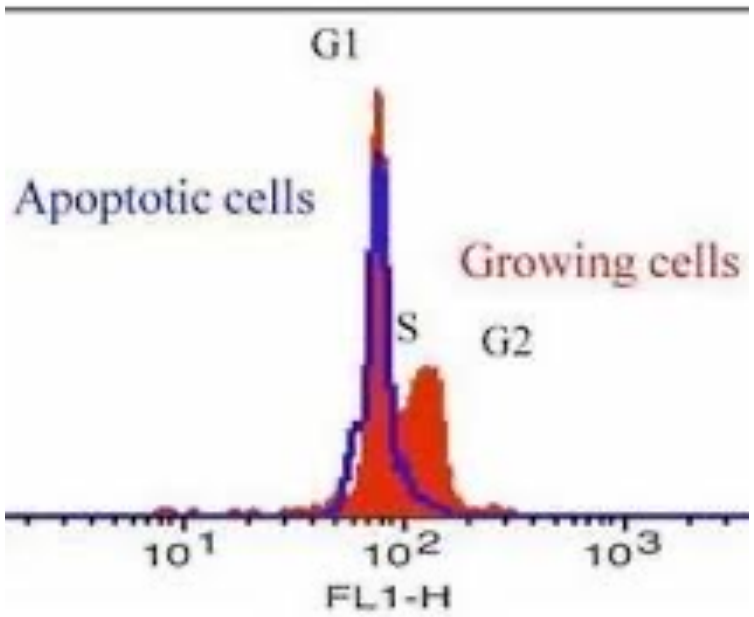






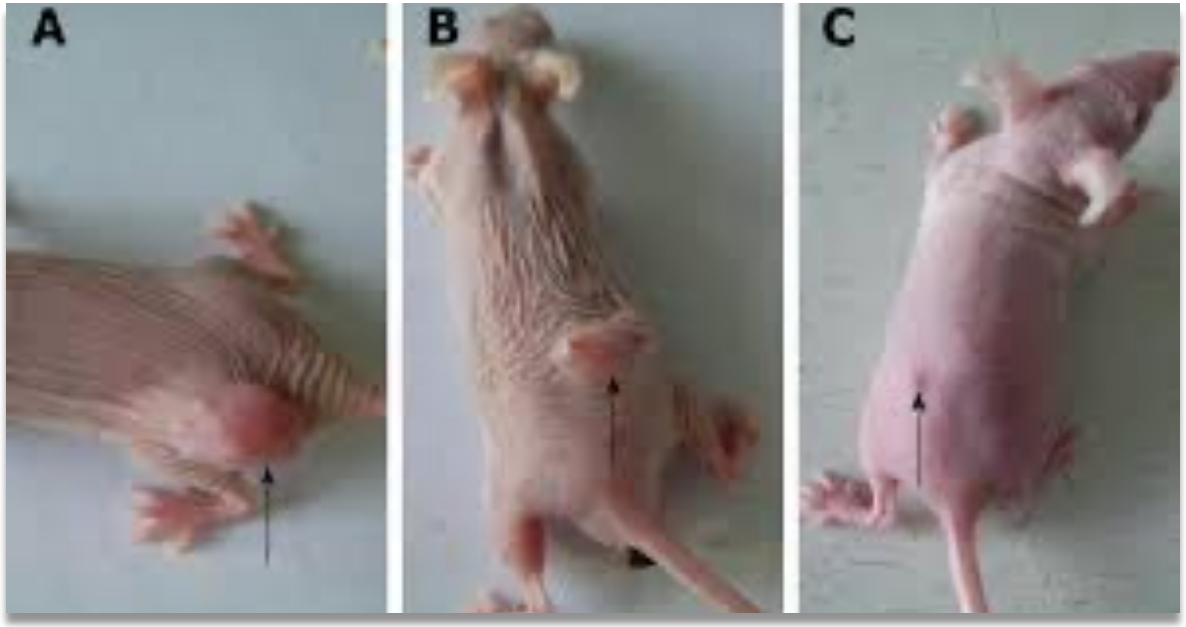






Flow cytometry: Cell cycle

Animal Experiments



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- What is basic research?
- Discovery of the world of research
- **Molecular Biology for Surgeon**
- My research and awards

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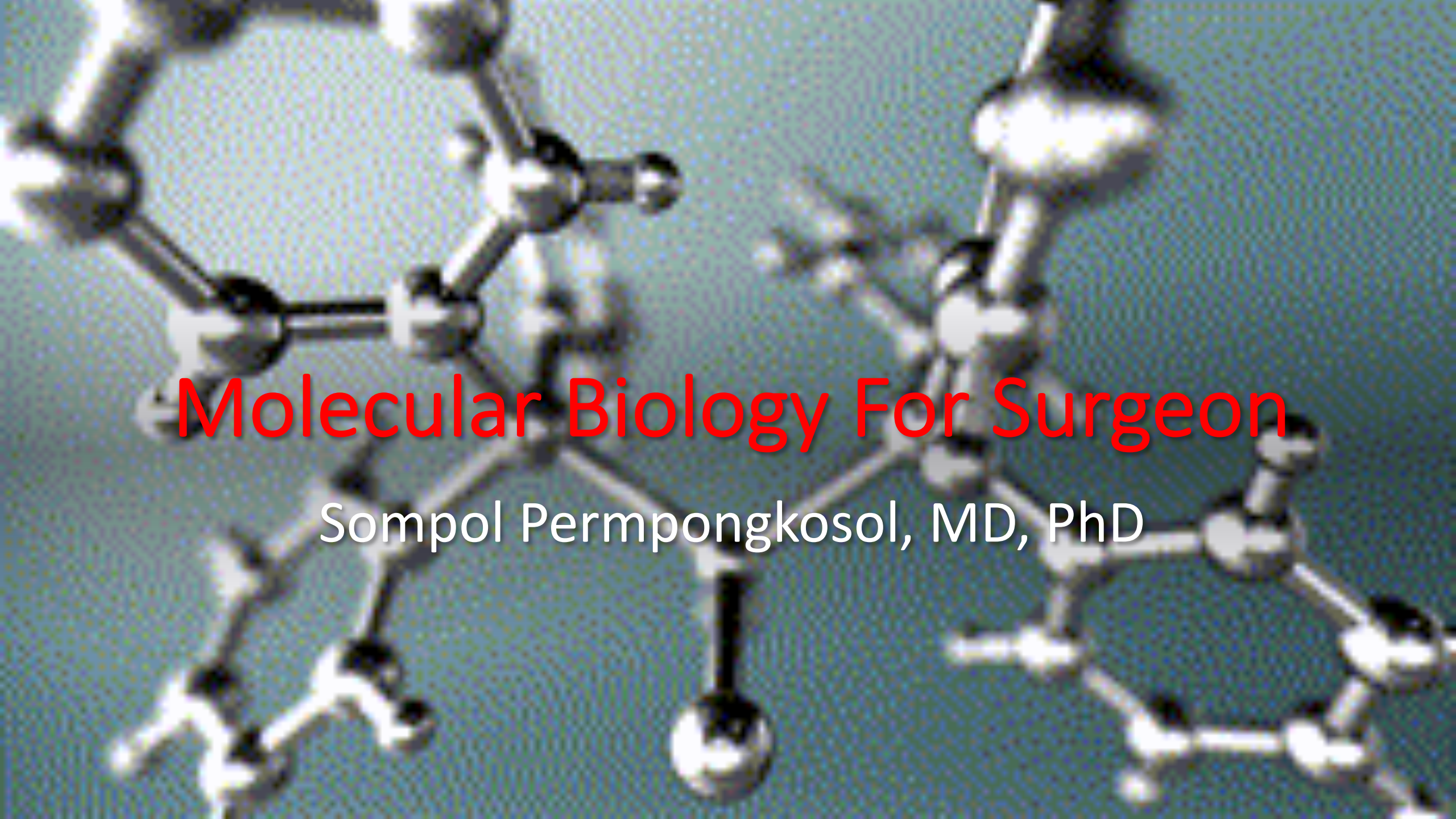


Molecular Biology For Surgeon

Sompol Permpongkosol, MD, PhD

Three Key Questions

- **What is Molecular Biology?**
- **How is its being used in Surgery?**
- **What are some of the issues it raises in Surgery?**

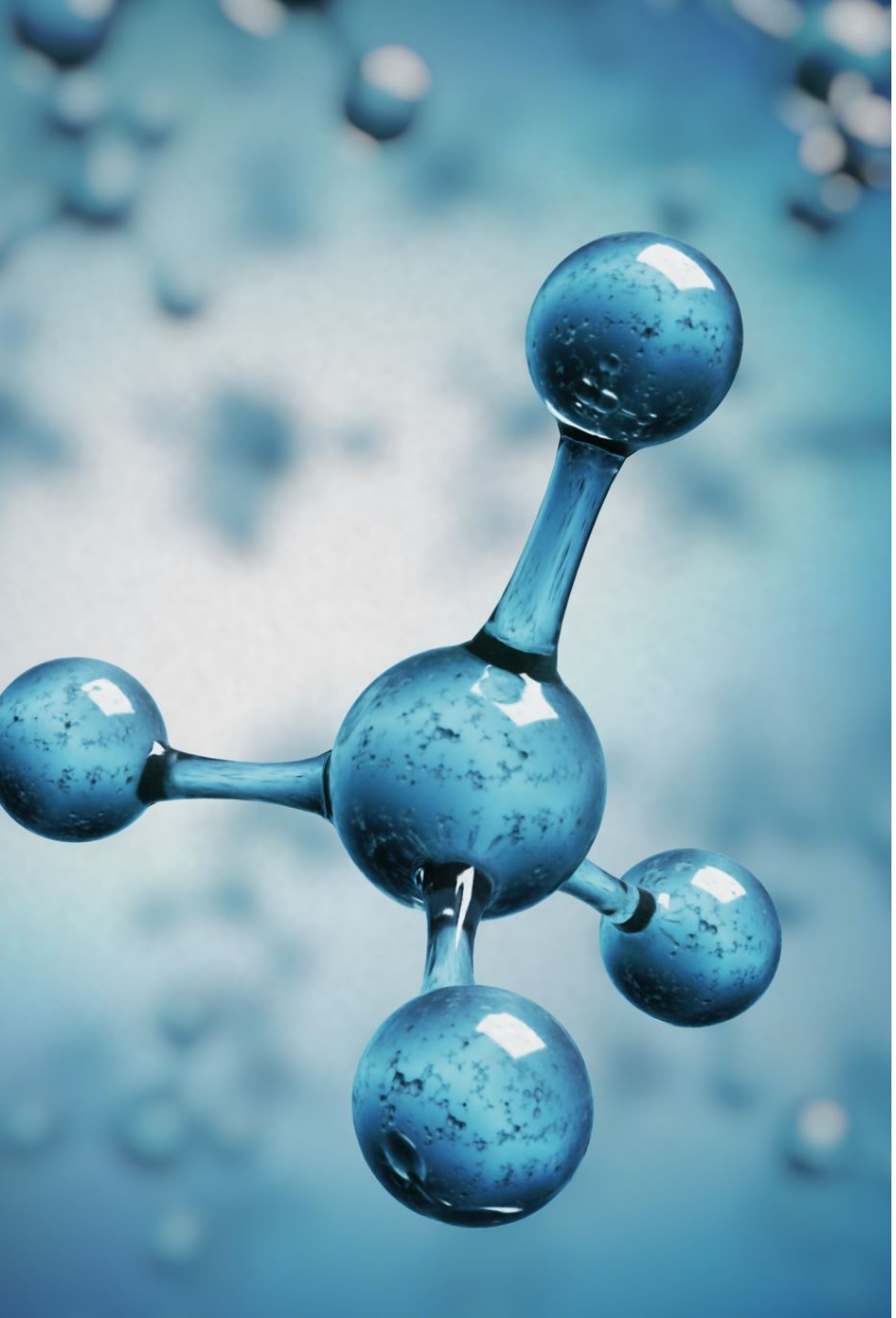
What is Molecular Biology?

Recombinant DNA technology

Genetic engineering

The relationships

- Between the structure and function of biology molecule
- Contribute to the operation and control of biochemical process



What is Molecular Biology?

- Fundamental information about the molecular
- Practical applications
  - Therapeutic
  - Vaccine
  - Diagnosis genetic disease
  - Gene Therapy

Molecular Biology for Urologists

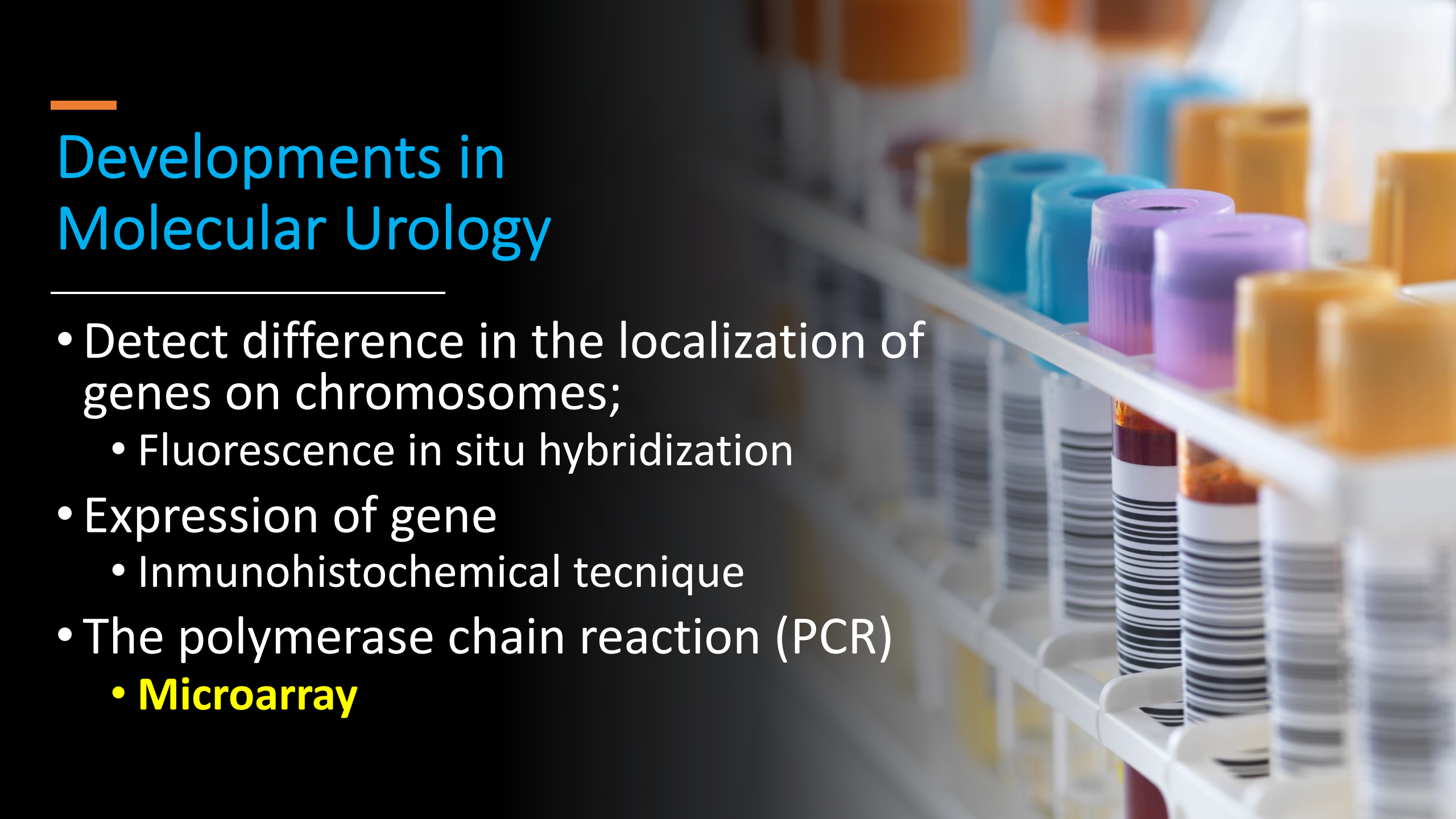
- **Techinques**
- **The Progession of Prostate cancer**
- **Tissue-specific promoter in Gene Therapy**
  - **Transcription factor *p*53**

Developments in Molecular Biology

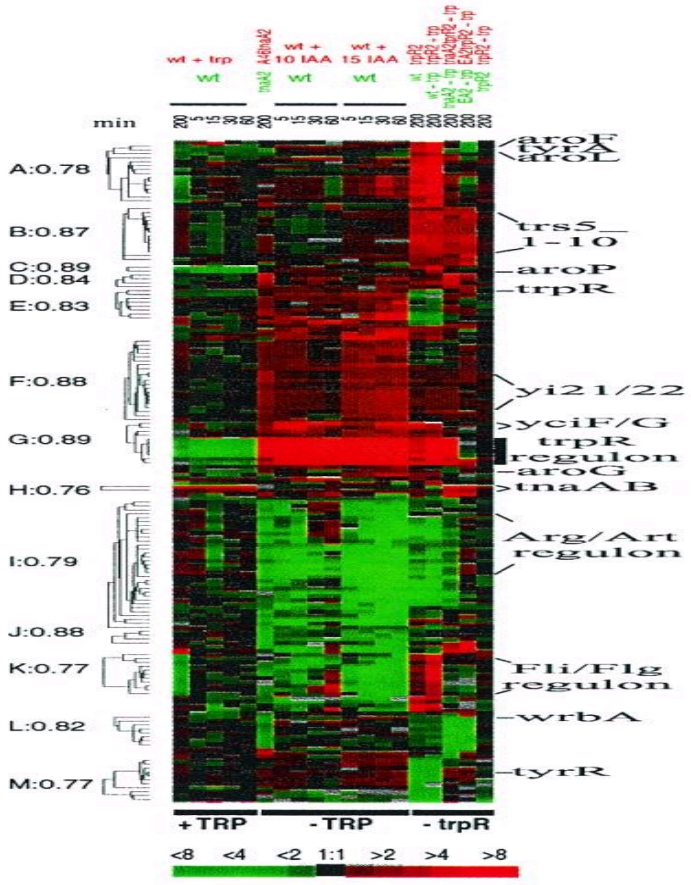
- Quantitative and structure differences between gene and their expression
  - Deoxyribonucleic acid (DNA): Southern blot
  - Ribonucleic acid (RNA): Northern blot
  - Proteins: Western blot

Developments in Molecular Urology

- Detect difference in the localization of genes on chromosomes;
  - Fluorescence in situ hybridization
- Expression of gene
  - Inmunohistochemical tecnique
- The polymerase chain reaction (PCR)
  - **Microarray**



DNA Microarray



A technology that reshaping molecular biology

Monitor all genetic changes that occure in the cell at the

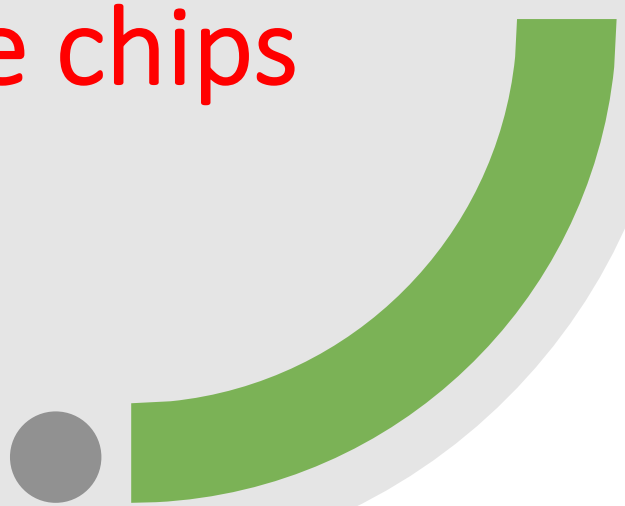
DNA level	RNA level	Protein level

Gene expression profiling chips

- A comparison of RNA expression
  - Primary and metastatic tumor
- Clinical applications
  - Classification of cancer into subtypes
  - Drug target discovery and validation
  - Prediction of patient response and secondary effect

- **Drug development**
  - To determine how a new drug is metabolized
  - To identify a new drug's target
  - The relationship between drug response and patterns of gene expression

Gene expression profile chips



Molecular Biology for Urologists

- New techinques
- The Progession of Prostate cancer
- Tissue-specific promoter in Gene Therapy
  - Transcription factor *p*53

The Molecular Biology of the progression of prostate cancer

- Poor understood
- Comparative genomic hybridization (CGH)
- Somatic chromosome aberration associated with the disease

Comparative genomic hybridization (CGH)

Total genomic DNA is cut into small pieces with a restriction enzyme.

Labelled and cohybridized to a cDNA microarray with a reference DNA sample

The Molecular Biology of the Progression of Prostate cancer

Not an inherited disease

Some individuals; its Development

- Incidence rates in some families: 10%
- High-penetrance predisposing genes
  - 6 chromosomal regions; chromosome 1, 16, 20 and X

Chromosomal Alterations in Prostate Cancer

Normal epithelium	Losses	Mutation
Prostatic intraepithelial neoplasia	8p	1q24-25
Histological prostate cancer	13q	20q
Localized clinical cancer	6q, 7q, 10q	GSTP1
Metastatic cancer	16q, 18q	
Hormone-refactory cancer	14p,11p	AR

Chromosomal alterations associated with the progession of prostate cancer during hormonal therapy

Chromosome arm	Tumor showing alteration, %	
	Primary	Recurrence
Losses		
1p	7	54
10q	10	46
19p and 19q	7	43
Gains		
8q	6	73
18q	0	30
Xq	0	35

Gene Involved in Prostate cancer Progression

- **Androgen receptor gene**
  - amplified and over expressed in
    - 30% of recurrence hormone-refractory prostate tumors

↓

Needle prostate biopsies in 77 patients

at the time progression → **13% AR gene**

(Laboratory of Cancer Genetics, University of Tampere, Finland)

Surgical applications of discovery efforts

DISEASE SUSCEPTIBILITY TESTING

PREDICTING TREATMENT RESPONSE

Molecular Biology for Urologists

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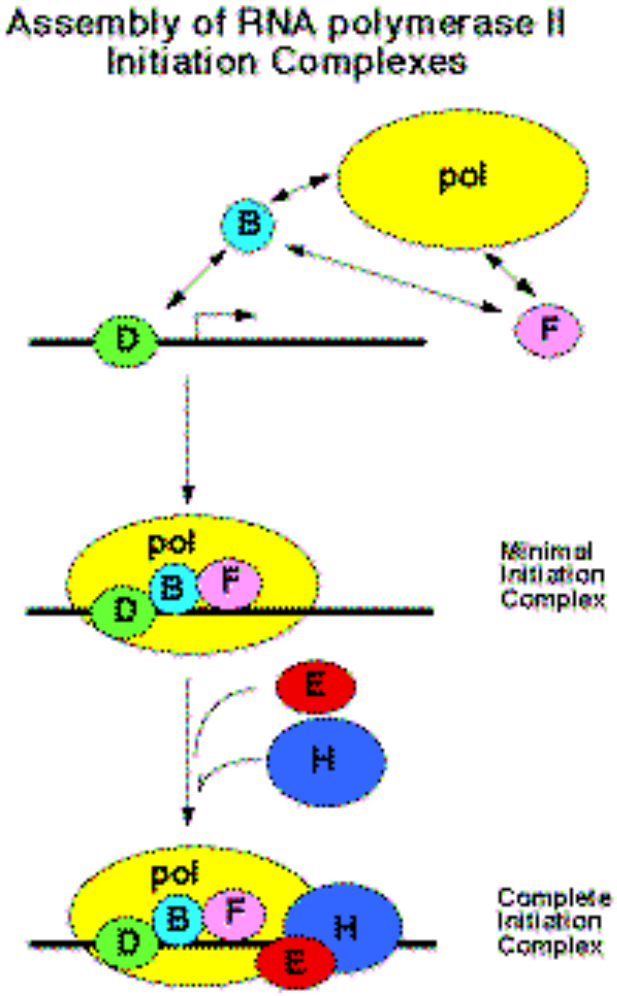
Tissue-Specific Promoters in Gene Therapy

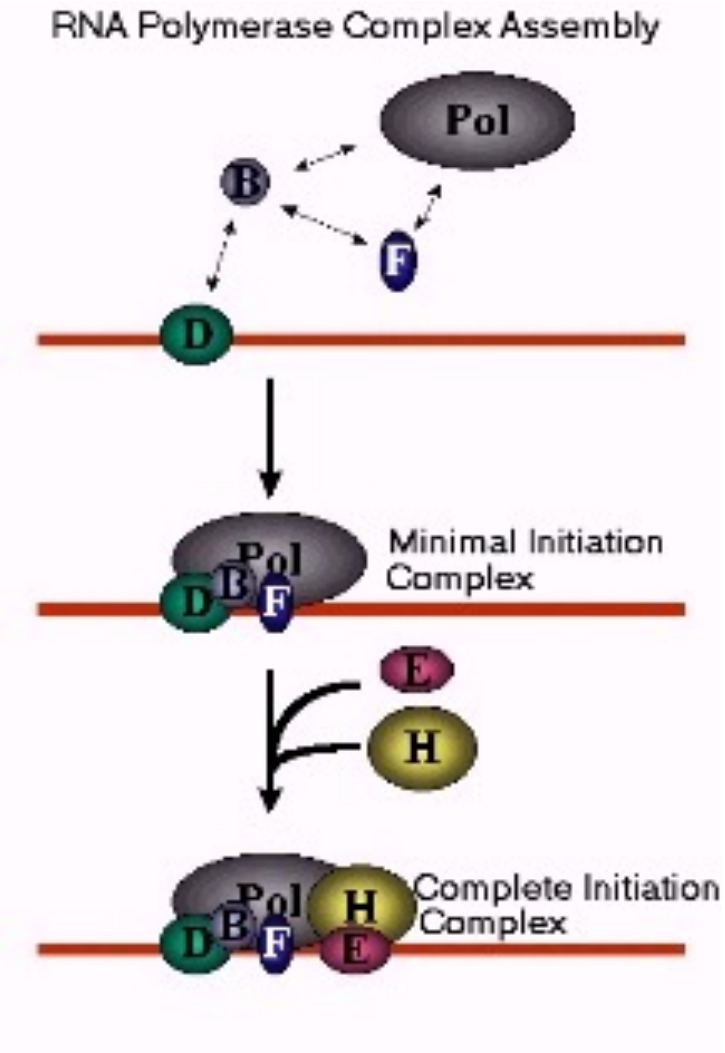


DNA

Transcription factors

mRNA

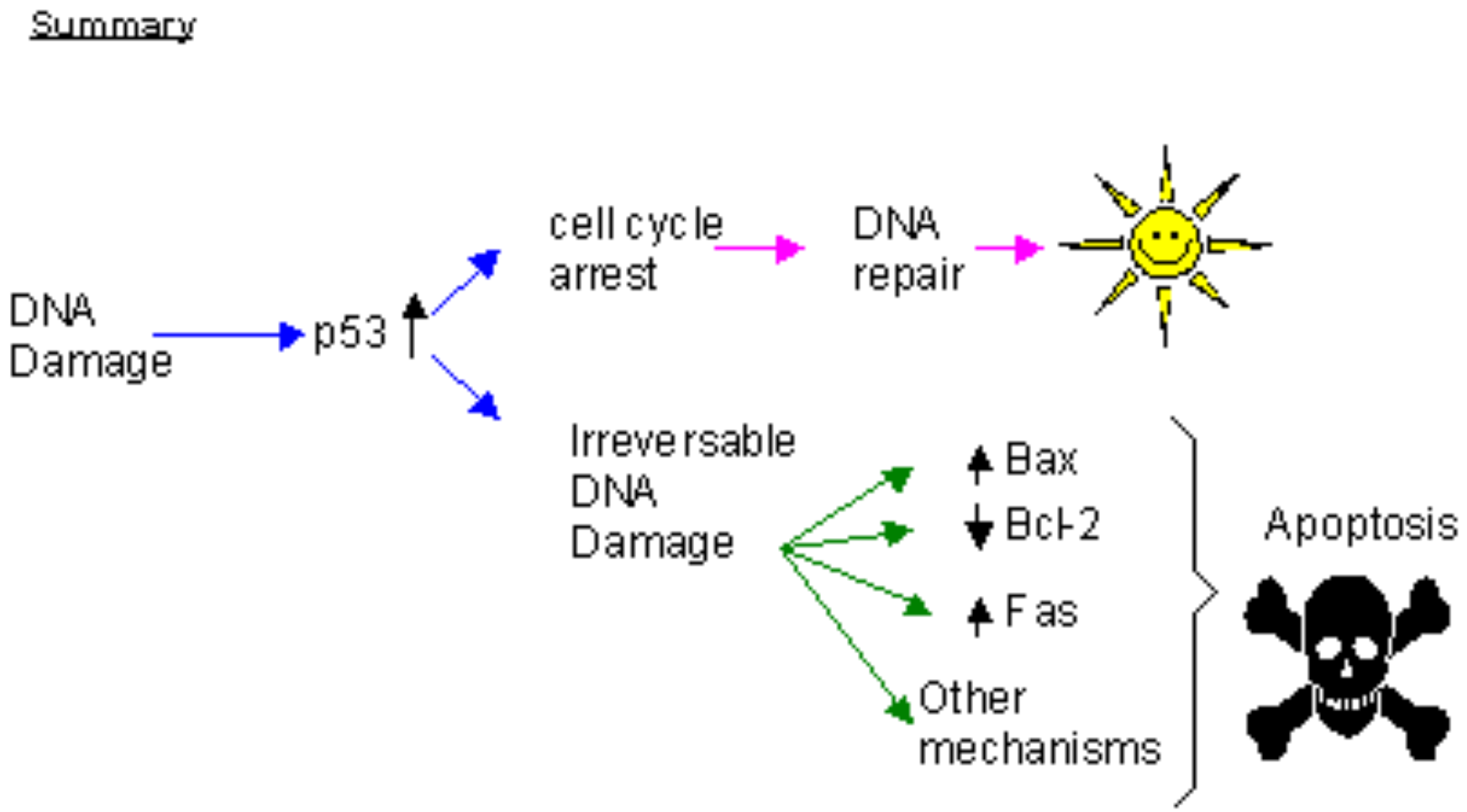
Protien



Genes with transcriptional activity that are known to be over expressed in urological malignancy

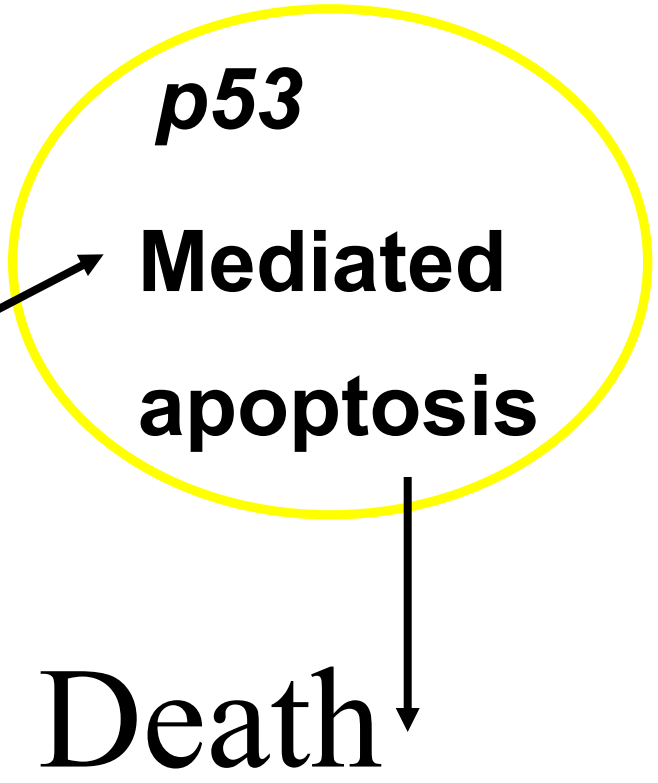
Cancer	*Gene*
Bladder	C-fos C-jun *p53* *p73* C-myc
Prostate	Insulin-like growth factor Hypoxia inducible factor
Kidney	Von Hippel-Lindau gene Pax-2 c-met Hepatocyte growth factor

Transcription factor *p*53
(The tumor suppressor gene)



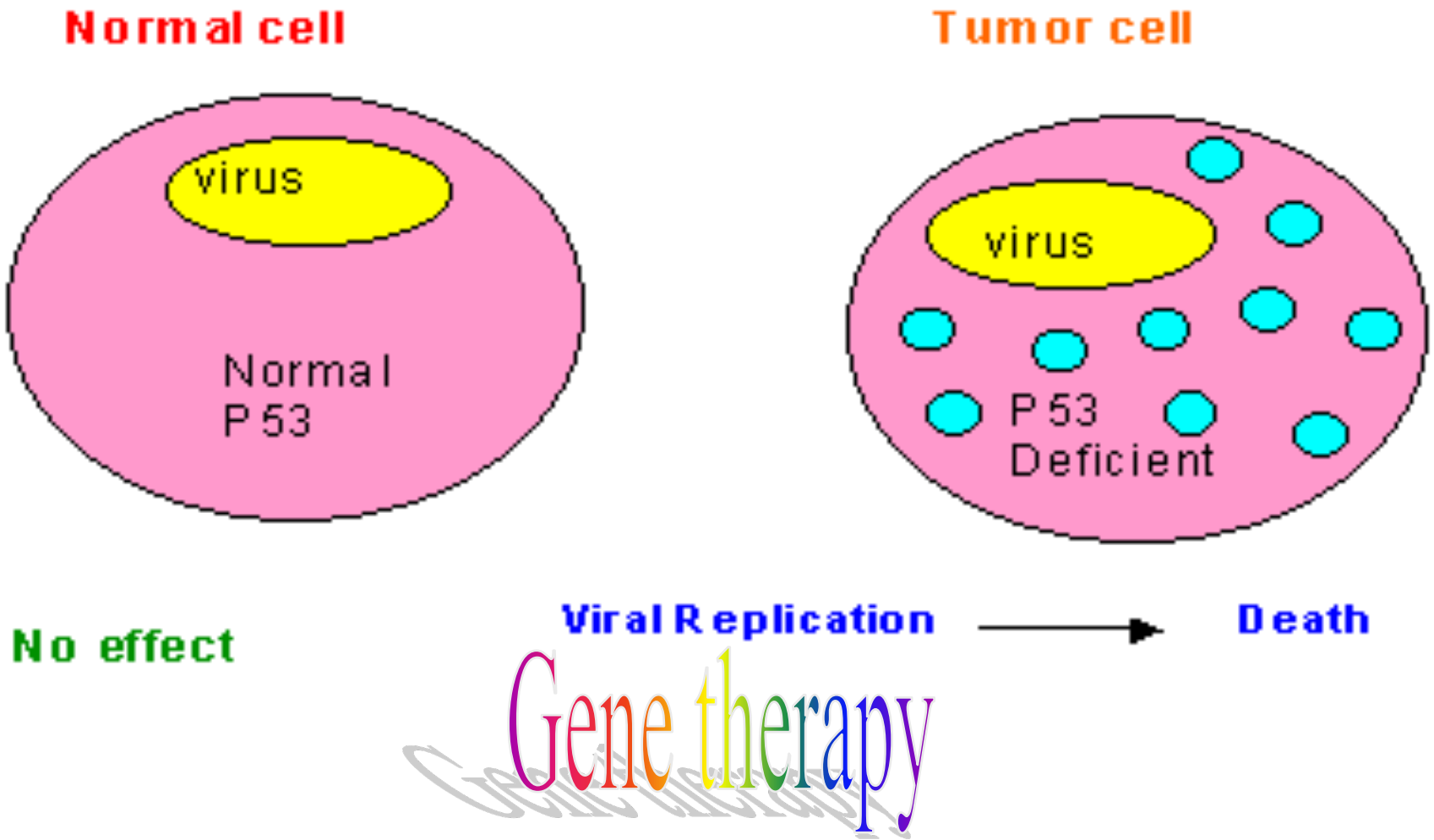
Novel approaches to drug therapy
Restoring *p53* function

Gene therapy



***p53* replaced by gene therapy and then additional chemotherapy**

Transcription factor *p*53 (Genetically modified Adenovirus)



Urology-the last 20 years

Urology-the last 20 years

- ESWL and Endourology : Stone disease
- PSA : BPH
- Robotic –assisted Laparoscopic surgery
- Significant improvements in quality of life
  - Development in drug

Predicting treatment response

- A future visit to a physician
  - Mr. Smith: Prostate cancer
    - Fully differentiated tumor with invasion

- Microarray analysis
- Hundreds of cell signaling pathways
- receptors

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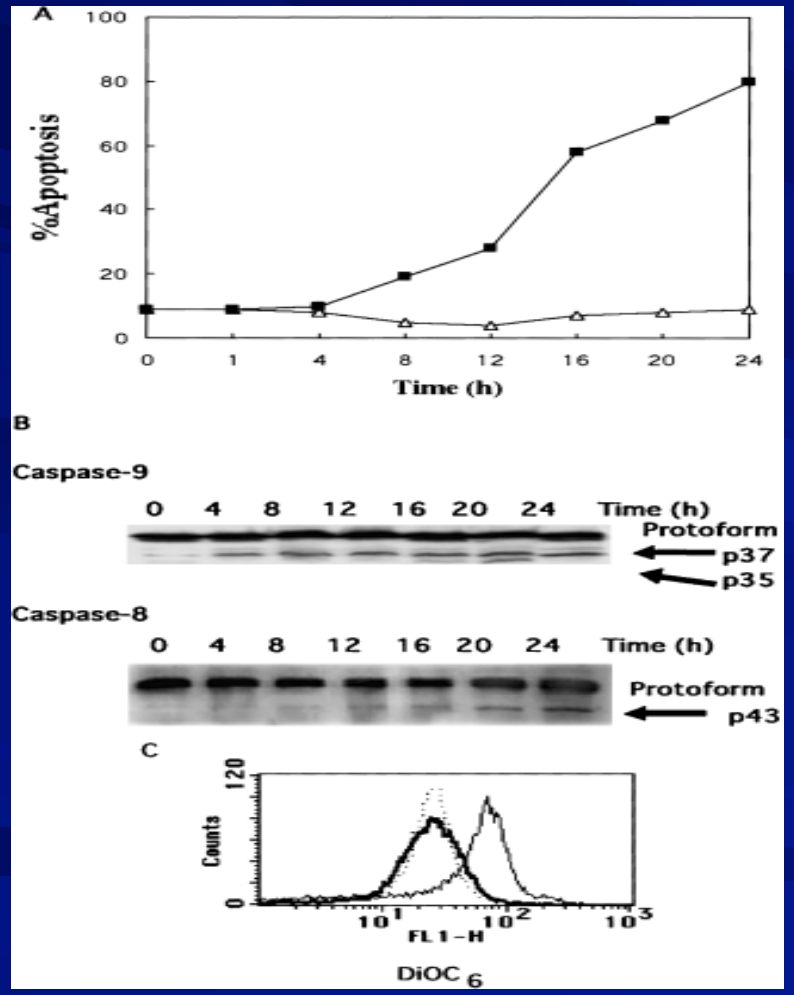
ANTICARCINOGENIC EFFECT OF FTY720 IN HUMAN PROSTATE CARCINOMA DU145 CELLS: MODULATION OF MITOGENIC SIGNALING, FAK, CELL-CYCLE ENTRY AND APOPTOSIS

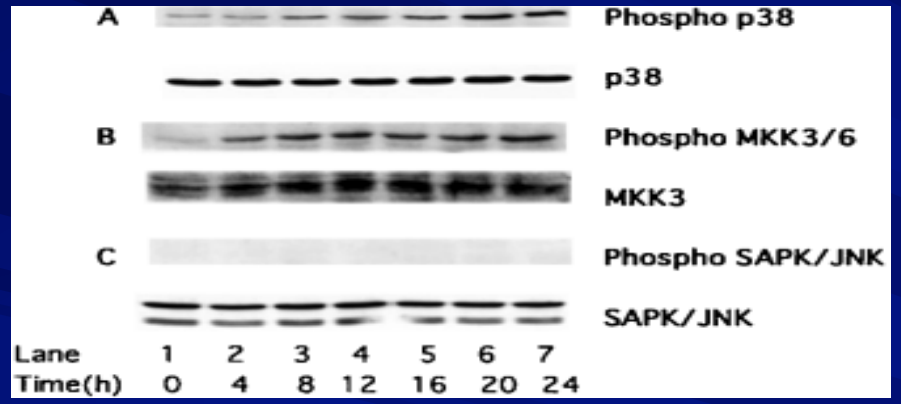
Sompol PERMPONGKOSOL1, Jing-Ding WANG1,3, Shiro TAKAHARA1, Kiyomi MATSUMIYA1, Norio NONOMURA1, Kazuo NISHIMURA1,
Akira TSUJIMURA1, Apichat KONGKANAND2 and Akihiko OKUYAMA1*

1Department of Urology, Osaka University Medical School, Osaka, Japan
2Department of Surgery, Chulalongkorn University, Bangkok, Thailand
3Department of Urology, Renji Hospital, Shanghai, China

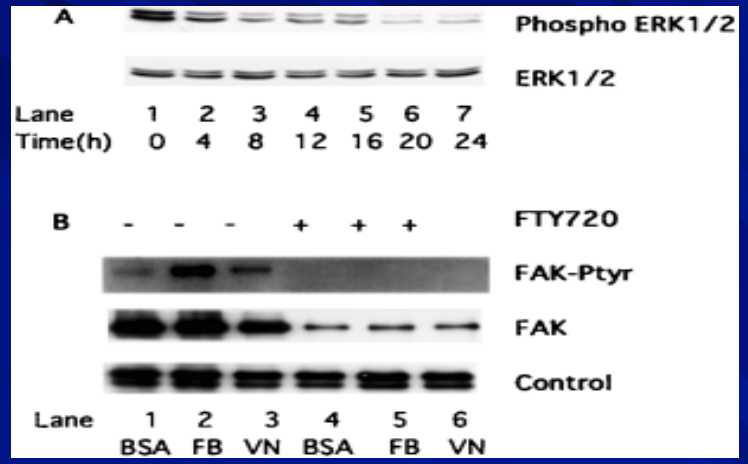
ANTICARCINOGENIC EFFECT OF FTY720 IN HUMAN PROSTATE CARCINOMA DU145 CELLS: MODULATION OF MITOGENIC SIGNALING, FAK, CELL-CYCLE ENTRY AND APOPTOSIS



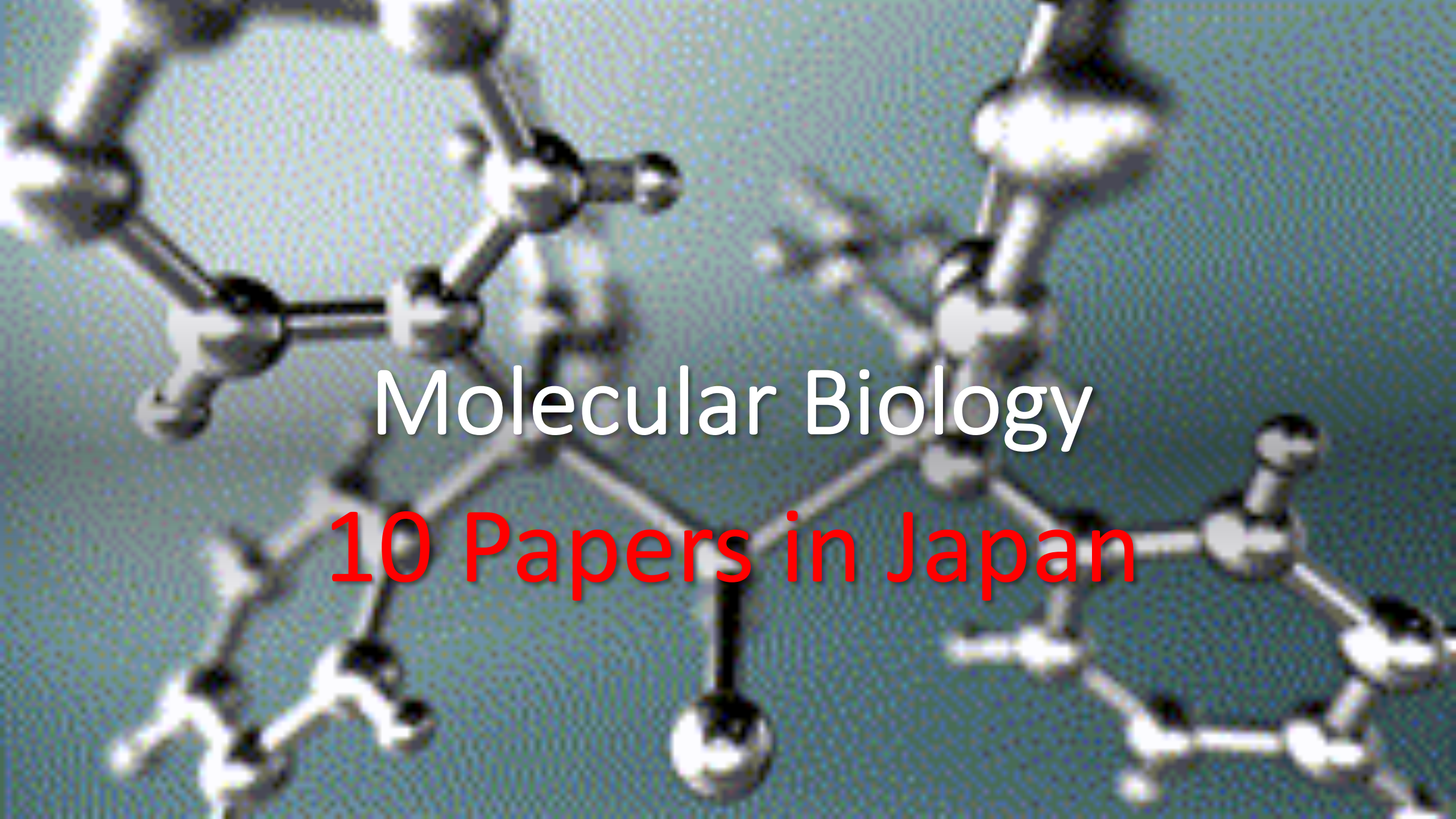
- **FIGURE 1 – Time course of apoptosis and caspase activation induced** by FTY720 in DU145 cells.
  - *(a) DU145 cells were incubated in the* absence (triangles) or presence of 40 M FTY720 (squares). The percentages of apoptotic cells were determined at the time indicated by FACS analysis as described in Material and Methods.
  - *(b) Cleavage* and activation of caspase-9 and -8 were determined by Western blotting as described in Material and Methods.
  - *(c) Reduction of the* mitochrondrial membrane potential was represented as DiOC6 log fluorescence *vs. relative cell number from representative experiments:* DMSO control (solid line), m-CICCP (dotted line) and FTY720 (bold line). The data shown were representative of 3 independent experiments



- **FIGURE 2 – Activation of p38 MAPK, MKK3/MKK6 and SAPK/** JNK by FTY720 in DU145 cells.
  - The effect of FTY720 on phosphorylation of p38 MAPK *(a),*
  - *MKK3/MKK6 (b) and*
  - *SAPK/JNK (c) was* demonstrated in DU145 cells.
  - Cultured cells were stimulated by 40 M FTY720 for the indicated periods.



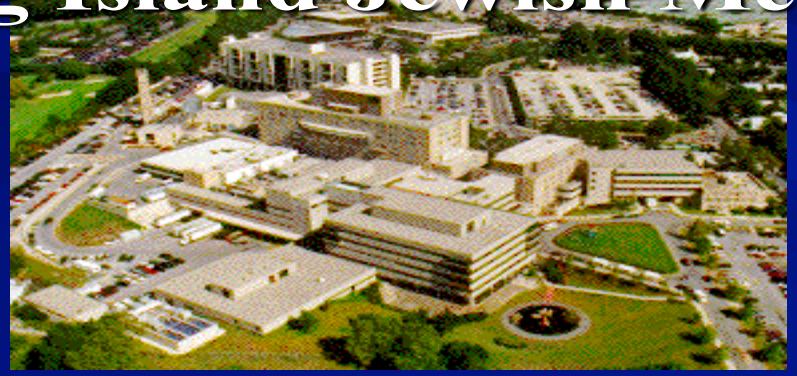
- **FIGURE 3 – Inhibition effect of FTY720 on ERK1/2 and FAK.**
  - ***(a)*** Effect of FTY720 on phosphorylation of ERK1/2 in DU145 cells. Cultured cells were stimulated by 40 M FTY720 for the indicated periods.
  - *(b) DU145 cells were plated on BSA (lanes 1 and 4), Fibronectin* (lanes 2 and 5) and Vitronectin (lanes 3 and 6) for 45 min and lysed after being resuspended in the same medium and incubated with either 40 M FTY720 or serum-free medium at 4◦C for 30 min. Immunoprecipitation was used. Anti-FAK immunoprecipitates were separated by 7.5% SDS-PAGE under reducing conditions and immunoblotted using PY20, antiphosphotyrosine monoclonal (upper) and anti-FAK antibody (middle). Unspecific protein was used for control


Molecular Biology
10 Papers in Japan

Elective Study in USA and France (September 2002- April 2003)

Johns Hopkins University Institute

Long Island Jewish Medical Center



Methodist Hospital Institute for Kidney Stone Disease

First Job at Johns Hopkins

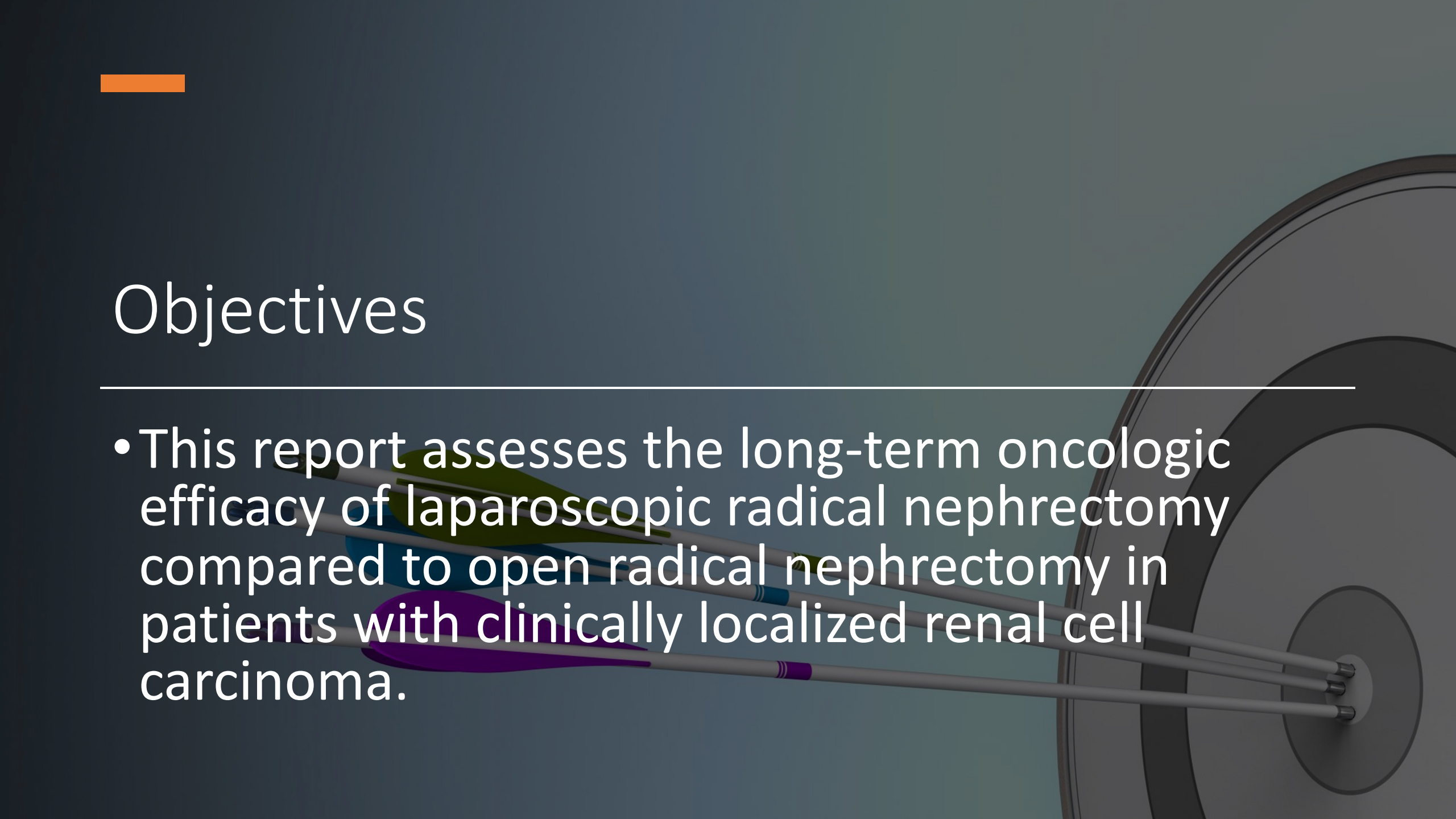
Long-term survival analysis after laparoscopic radical nephrectomy

Permpongkosol S, Chan DY, Link RE, Sroka M, Allaf M, Varkarakis I, Lima G, Jarret, Kavoussi LR.

J. Urol. **2005 Oct; 174(4pt1): 1222-5**

Objectives

- This report assesses the long-term oncologic efficacy of laparoscopic radical nephrectomy compared to open radical nephrectomy in patients with clinically localized renal cell carcinoma.

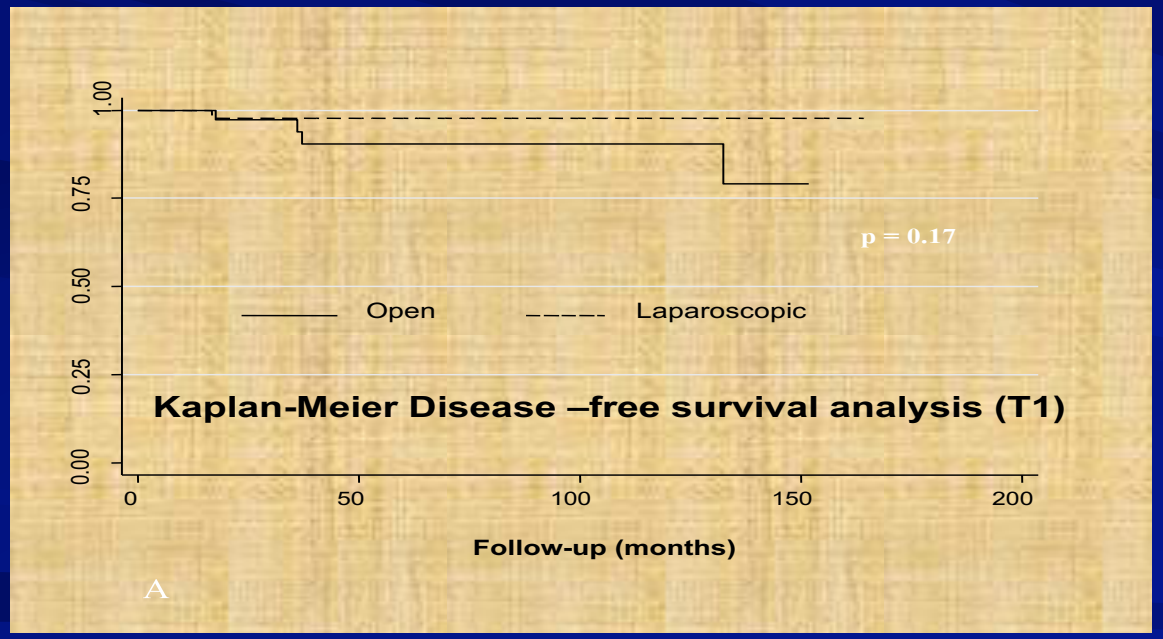


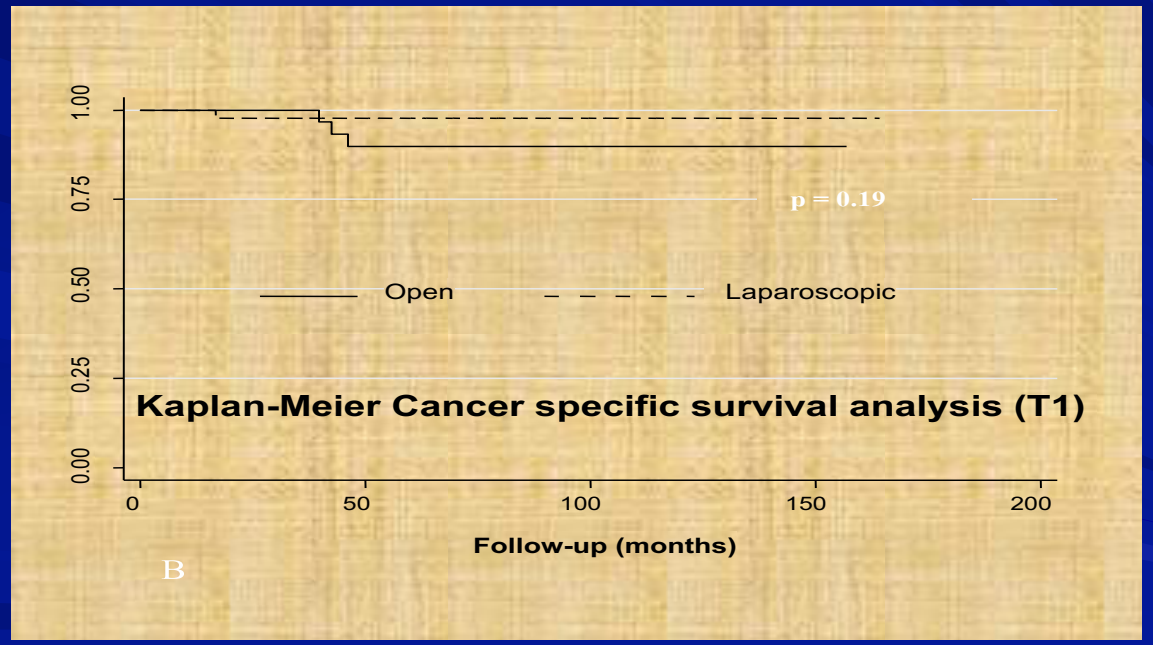
Materials and Methods

- We analyzed the data from 121 patients who underwent radical nephrectomy between 1991 and 1999 for clinical tumor stage T1/2 N0M0.
- The medical records of all patients were retrospectively reviewed with emphasis on tumor recurrence and survival.
- Statistical comparison was carried out using Kaplan-Meier analysis

Kaplan-Meier log rank test

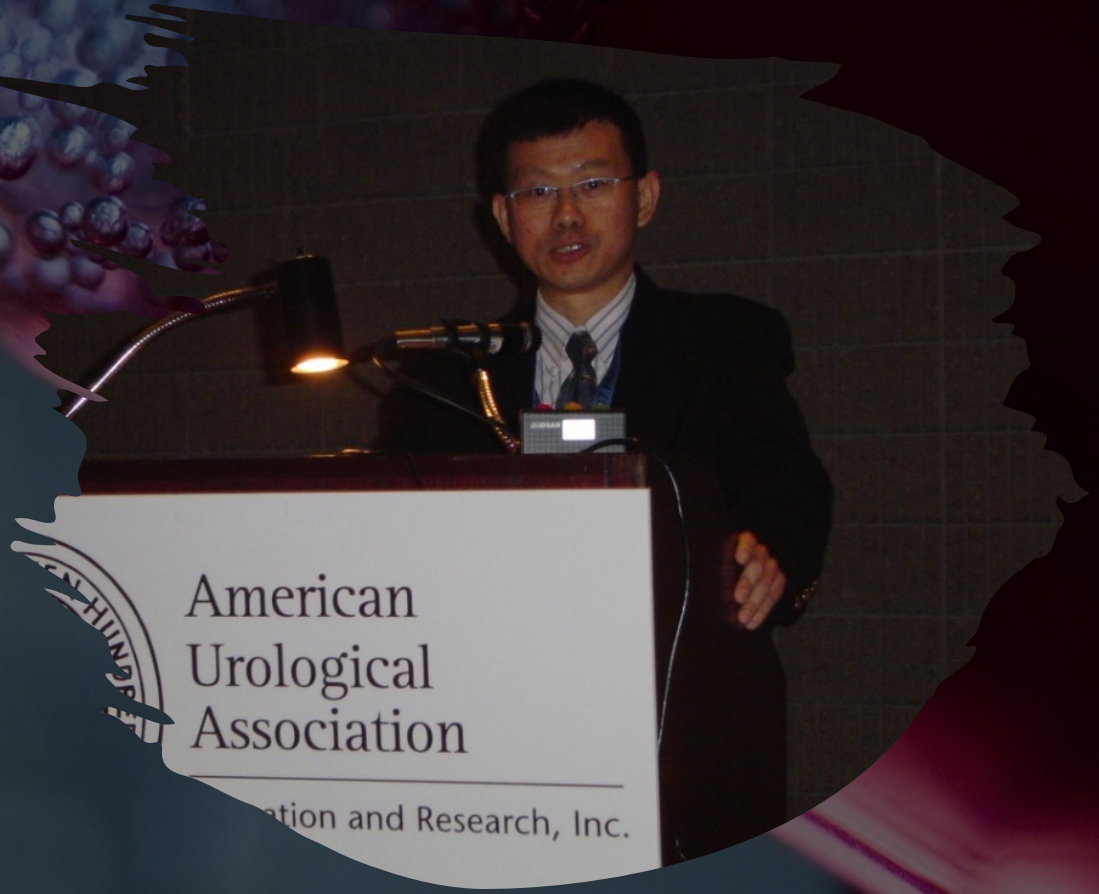
showed no significant (NS) survival difference in Laparoscopic and open nephrectomy groups.





Conclusions

- Based on long-term follow-up, our evaluation confirmed for clinical tumor stage T1/2 N0M0, laparoscopic radical nephrectomy is oncologically equivalent to open radical nephrectomy



Trend in the operative management of renal tumors over a 14-year period

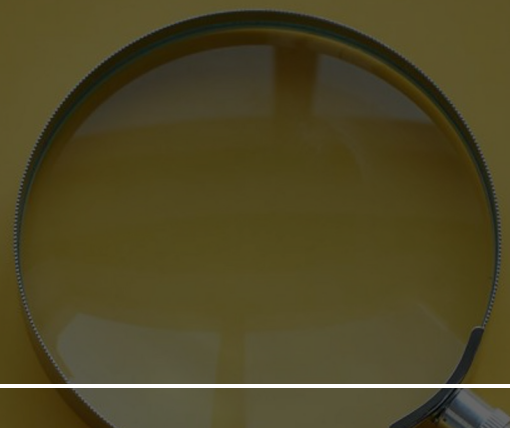
Permpongkosol S, Bagga HS, Romero FR, Solomon SB and Kavoussi LR.

BJU Int.2006 Oct:98(4):918-22

Purpose

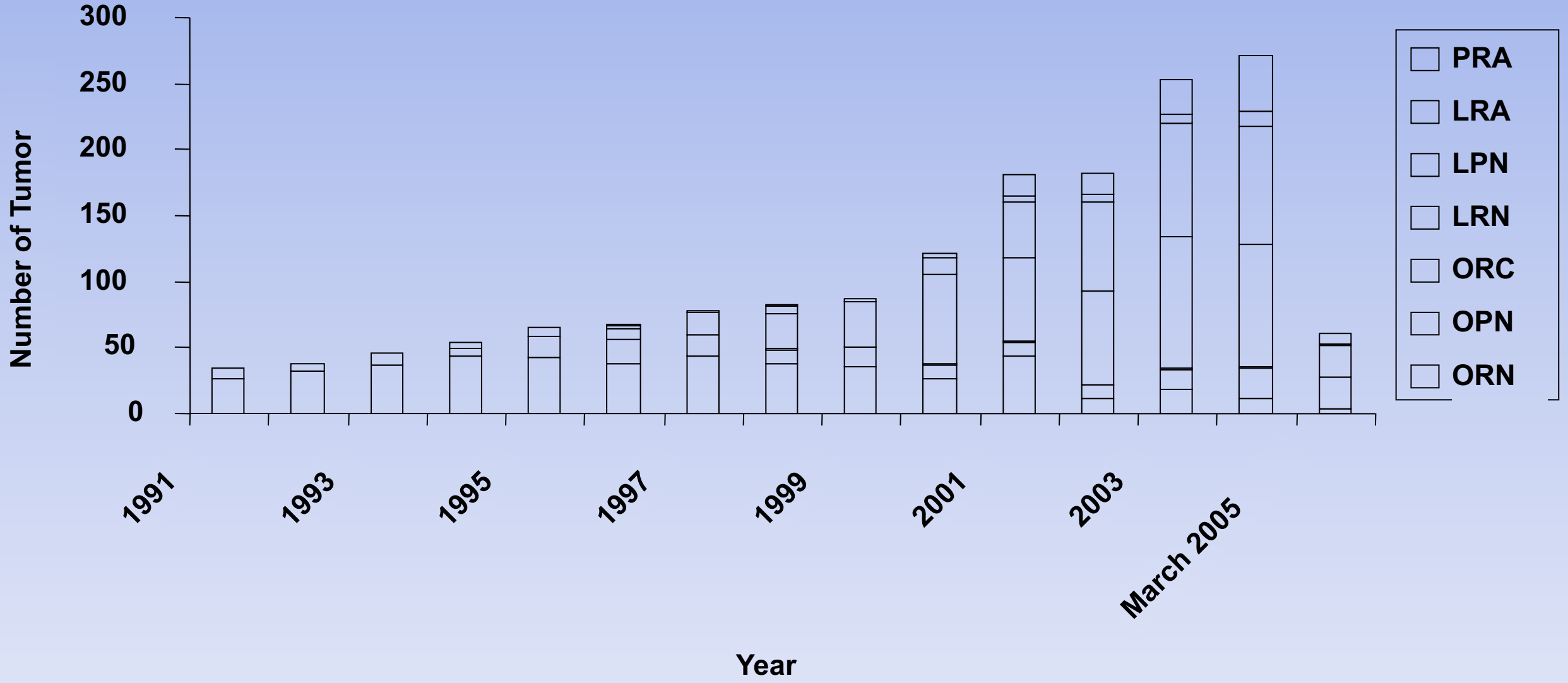
- The therapeutic options available for treatment of renal tumors have expanded over the past decade.
- The trend in the operative management over a 14 year period was reviewed at a university hospital.

Methods

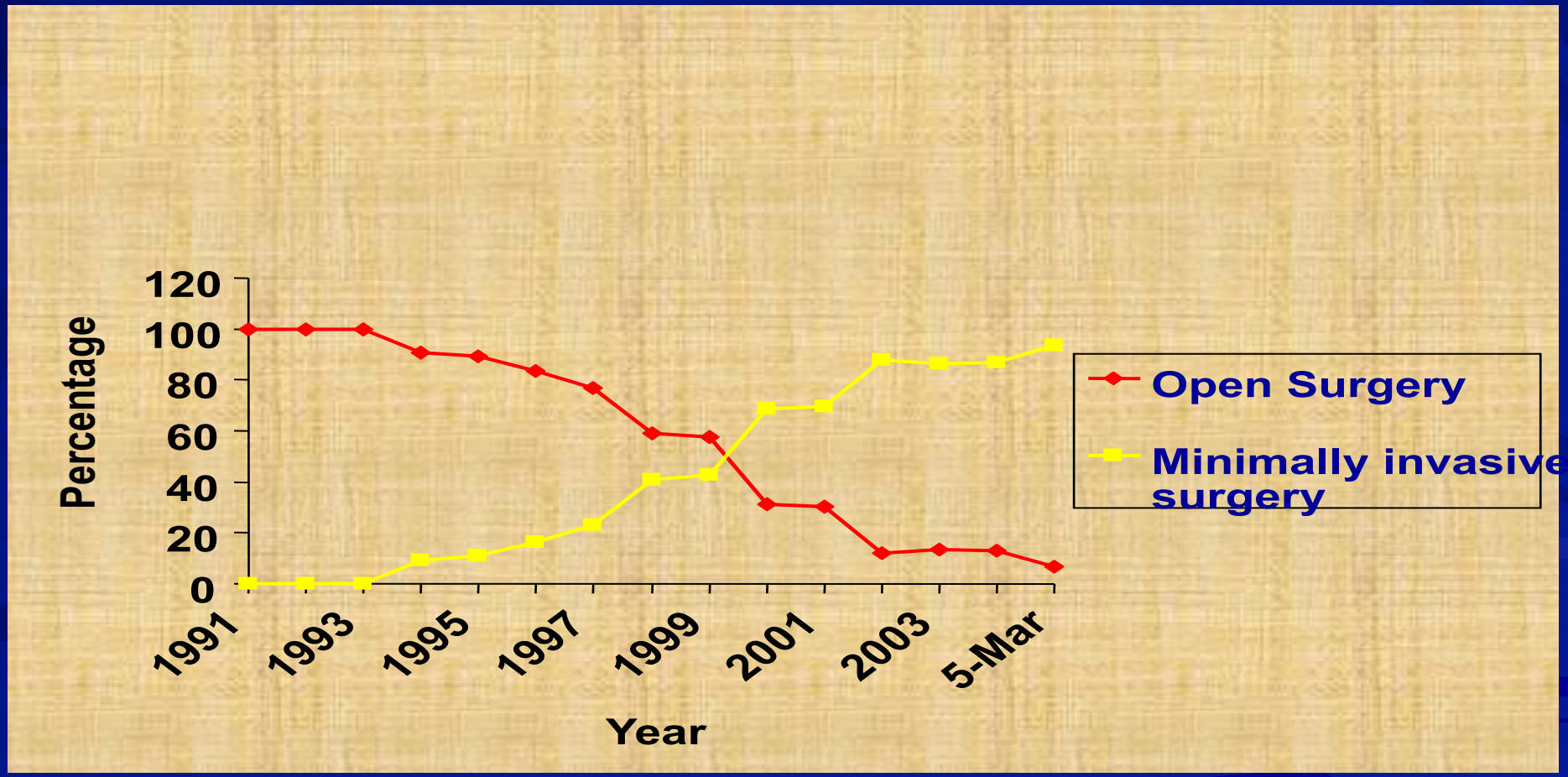


- A retrospective chart review was performed of 1,621 consecutive patients undergoing treatment of renal tumors from January 1991 to March 2005.
- Characteristics assessed included patient demographics, tumor size, operative time, and treatment.

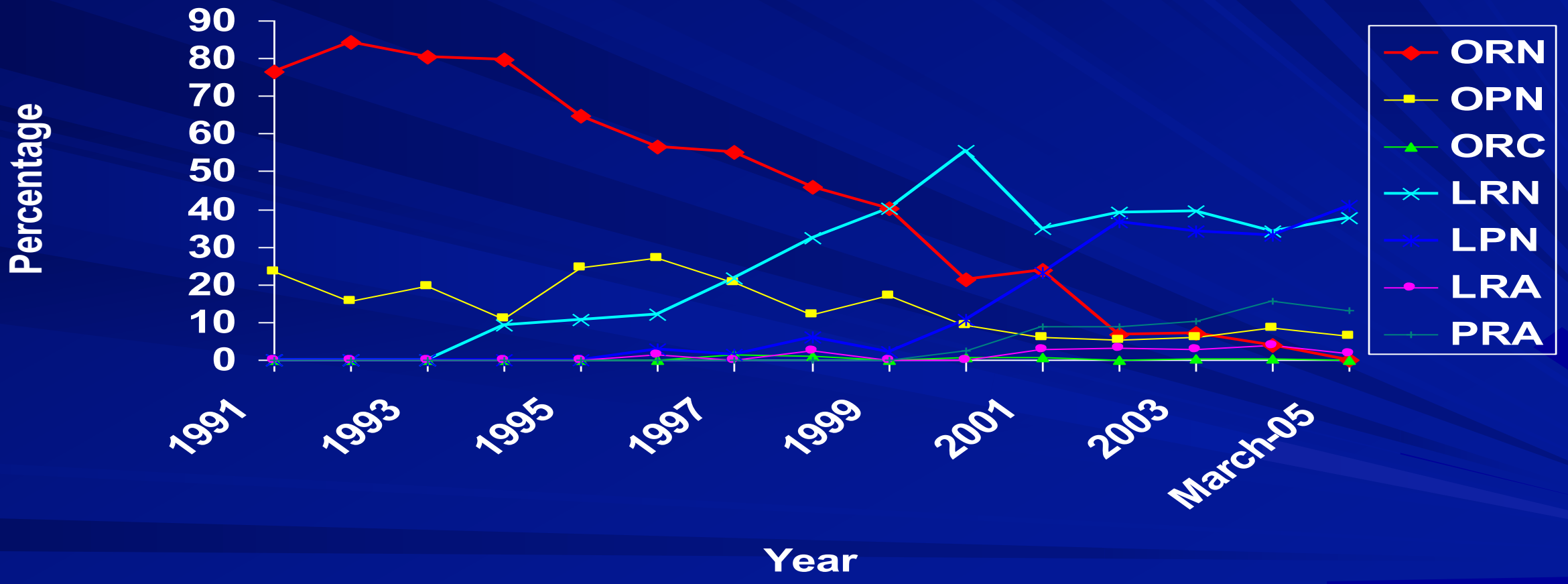
Operative management of renal tumor, 1991-March 2005



Percentage management of minimally invasive surgery for renal tumor included laparoscopic and percutaneous approach, 1991- March 2005



A percentage of trends of operative management of patients with renal tumor in a medical school; 1991- March 2005



Conclusions

- The available treatment options for renal tumors have expanded significantly since the early 1990's.
- At a university hospital with physicians with a specific interest in minimally invasive surgery and ablative treatments, minimally invasive approaches have evolved to become standard treatment.

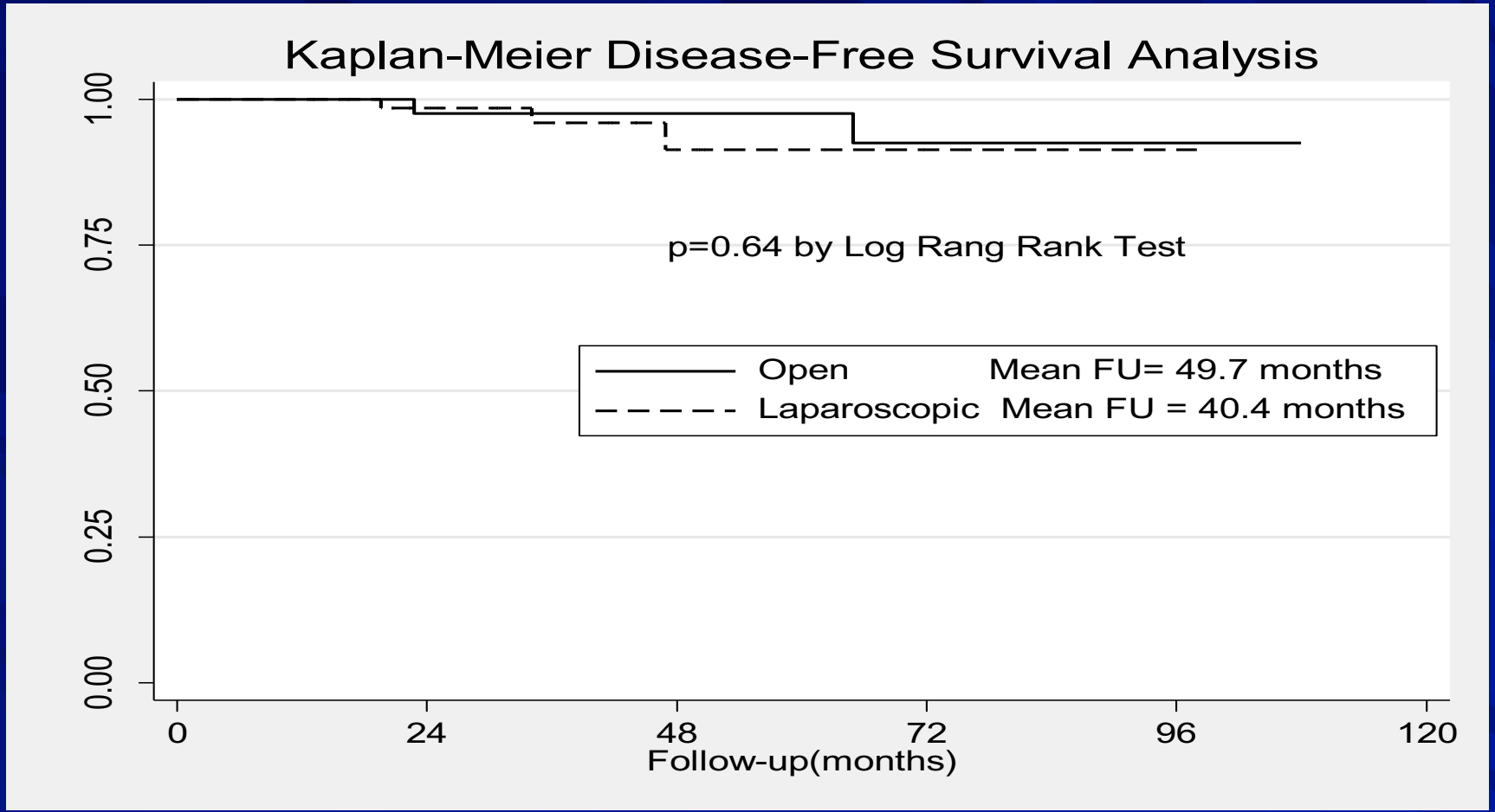
Life in Hopkins

Laparoscopic versus open partial nephrectomy for the treatment of pathological $T_1N_0M_0$ renal cell carcinoma : a 5-year survival rate.

Permpongkosol S, Bagga HS, Romero FR, Sroka M, Jarret TW, Kavoussi.

J Urol. 2006 Nov;176(5): 1984-8; discussion 1988-9

A

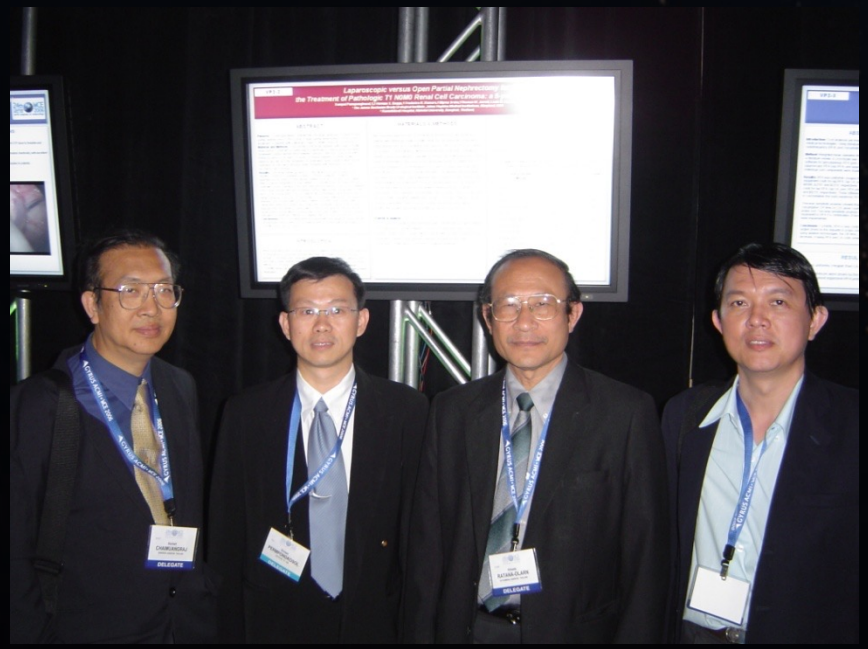


Follow up (months)	0	12	24	36	48	60	72
Patients at risk; OPN	58	58	41	31	25	22	15
Patients at risk; LPN	85	85	57	36	20	10	4

Conclusion

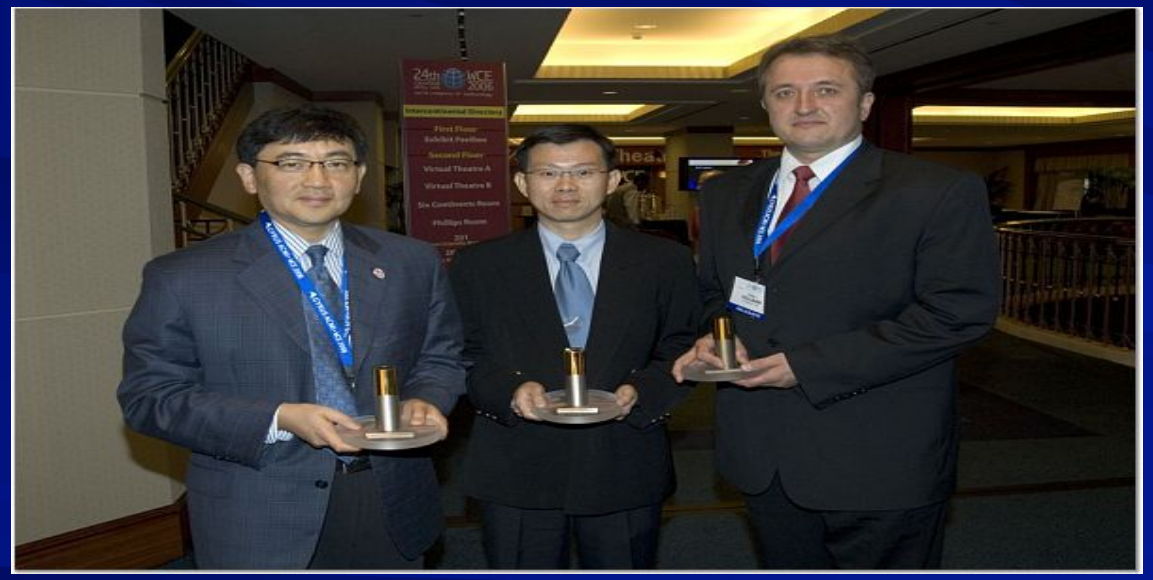
- LPN is an alternative technique with mid range oncologic results comparable to those with OPN in patients with localized pathologic stage T1N0M0 renal cell carcinoma.

The World Congress of Endourology in Cleveland, OH, USA, August 16-20, 2006



“The Best Laparoscopic Paper” at the World Congress of Endourology in Cleveland, OH, USA, August 16-20, 2006

Laparoscopic versus Open Partial Nephrectomy for the Treatment of Pathologic $T_1N_0M_0$ Renal Cell carcinoma: A 5-Year Survival Rate.”



CERTIFICATE

24th WORLD CONGRESS OF ENDOUROLOGY

BEST LAPAROSCOPIC PAPER

IN RECOGNITION OF EXCELLENCE IN ENDOUROLOGICAL RESEARCH

WE ARE HONOURED TO AWARD

S. Permpongkosol, H.S. Bagga, F.R. Romero, M. Sroka, R.E. Link, T.W. Jarrett, L.R. Kavoussi

WITH THE OLYMPUS PRIZE FOR THE BEST LAPAROSCOPIC PAPER AT THE WORLD CONGRESS OF ENDOUROLOGY

August 20th, 2006, Prof. Dr.med. Jens Rassweiler

OLYMPUS

Positive surgical parenchymal margin after laparoscopic partial nephrectomy for renal cell carcinoma: oncologic outcomes

Permpongkosol S, Colombo JR Jr, Gill IS, Kavoussi LR.

J. Urol. 2006 Dec;176(6):2401-4

Positive Surgical Parenchymal Margin after Laparoscopic Partial Nephrectomy for Renal Cell Carcinoma: Oncologic Outcomes

Sompol Permpongkosol,[1] Jose R. Colombo Jr,[2]
Inderbir S. Gill,[2] Louis R. Kavoussi [1,3]

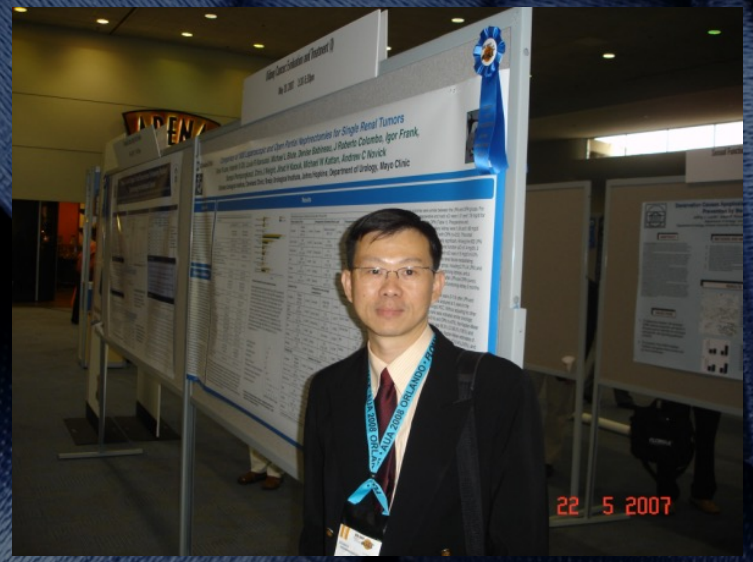
[1]Brady Urological Institute, The Johns Hopkins Medical Institutions, Baltimore, Maryland.
[2] Section of Laparoscopic and Robotic Surgery, Glickman Urological Institute, Cleveland Clinic Foundation, Cleveland, Ohio.
[3] The Institute for Urology, North Shore LIJ Health System, Long Island, New York

Conclusions

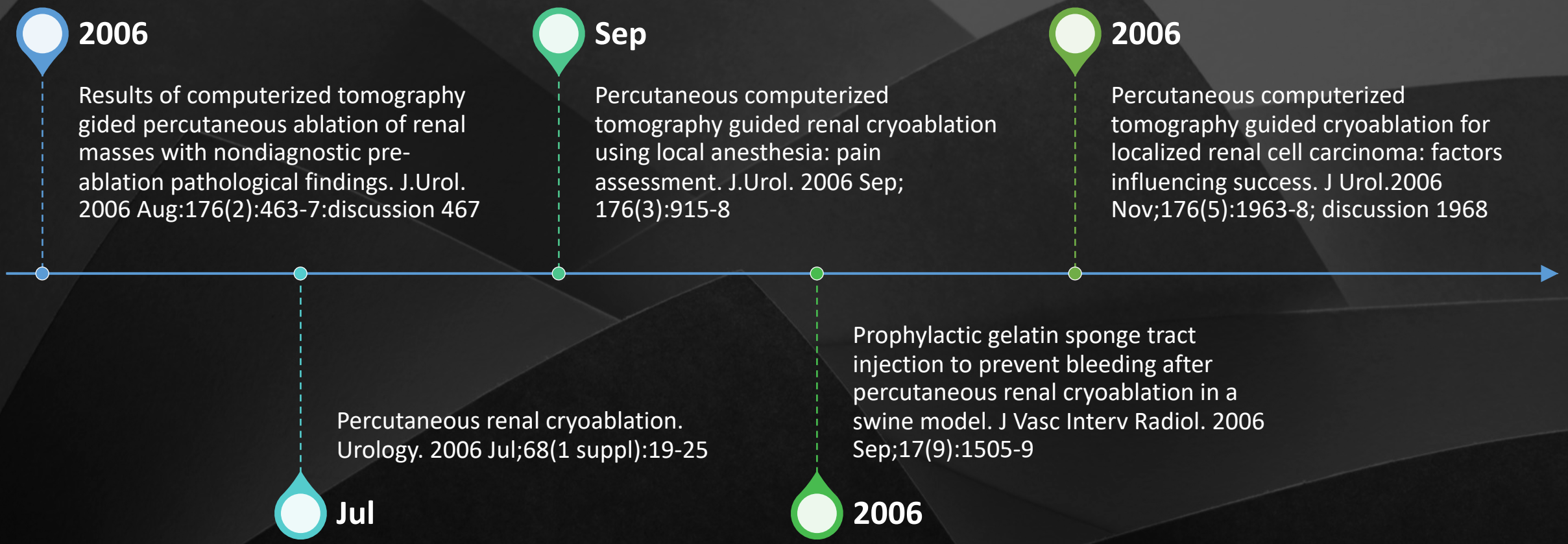
- A focal positive margin following LPN
  - Does not always indicate residual disease
  - But monitoring is mandatory
  - Longer follow-up is necessary

The Best Poster at the American Urological Association Annual Meeting in Anahein, CA, USA, May 19-24, 2007

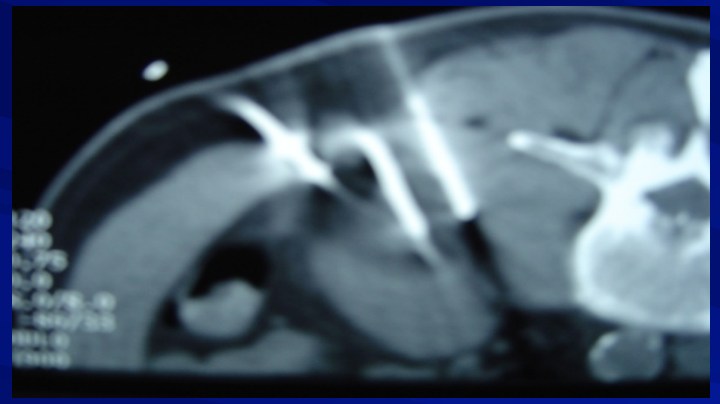
“Comparison of 1800 Laparoscopic and Open Partial Nephrectomies for Single Renal Tumors”

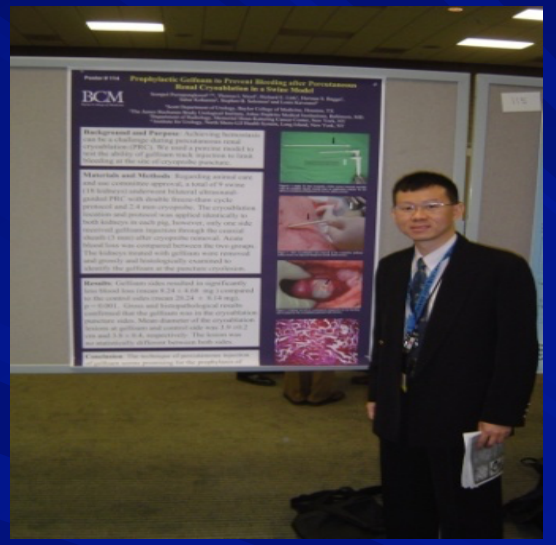


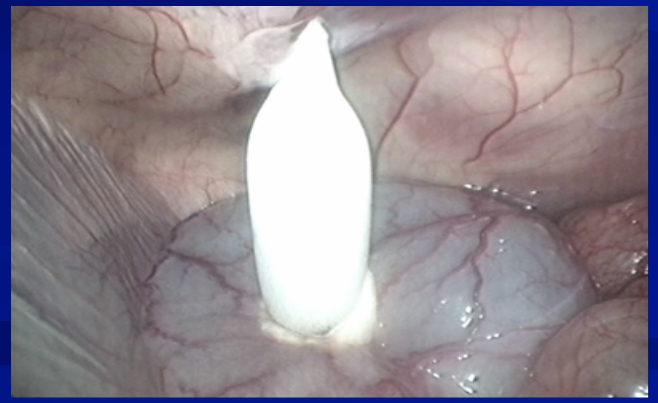
Percutaneous Cryoablation



Renal Cryoablation







Baylor College of Medicine, Houston, Texas

Texas Medical Center, Houston, Texas

- 2005-2006
- An invited Reviewer of Journal of Urology
- An invited Reviewer of Urology

Complications in 2,775 Urologic Laparoscopic Procedures: 1993-2005

Sompol Permpongkosol,[1] Richard E. Link,[2] Li-Ming Su,[1]
Frederico R. Romero,[1] Herman S. Bagga,[1] Christian P. Pavlovich,[1]
Aaron Sulman,[1] Thomas W. Jarrett,[3] Louis R. Kavoussi [4]

[1] Department of Urology, The James Buchanan Brady Urological Institute, Johns Hopkins Medical Institutions, Baltimore, MD.
[2] Scott Department of Urology, Baylor College of Medicine, Houston, TX
[3] Department of Urology, The George Washington University Hospital, Washington, DC
[4] Institute for Urology, North Shore-LIJ Health System, Long Island, New York, NY

Conclusion

- Experience with laparoscopic procedures is important for the prevention and management of complications
- The development of a urologic-specific standardized complication system is necessary

Laparoscopic Urology

1. Trend in the operative management of renal tumors over a 14-year period. ***BJU Int.2006*** Oct:98(4):918-22
2. Long-term survival analysis after laparoscopic radical nephrectomy. ***J Urol.* 2005** Oct; 174(4Pt1): 1222-5
3. Laparoscopic versus open partial nephrectomy for the treatment of pathological $T_1N_0M_0$ renal cell carcinoma: a 5-year survival rate. ***J Urol* 2006** Nov; 176(5): 1984-8: discussion 1988-9
4. Positive surgical parenchymal margin after laparoscopic partial nephrectomy for renal cell carcinoma: Oncologic outcomes. ***J.Urol. 2006*** Dec; 176(6):2401-4
5. Complications of 2,755 Urological Laparoscopic Procedures: 1999 to 2005. ***J.Urol.* 2007** Feb; 177
6. Post-Chemotherapy Laparoscopic Retroperitoneal Lymph Node Dissection: Evaluation of Complications. ***Urology 2007***

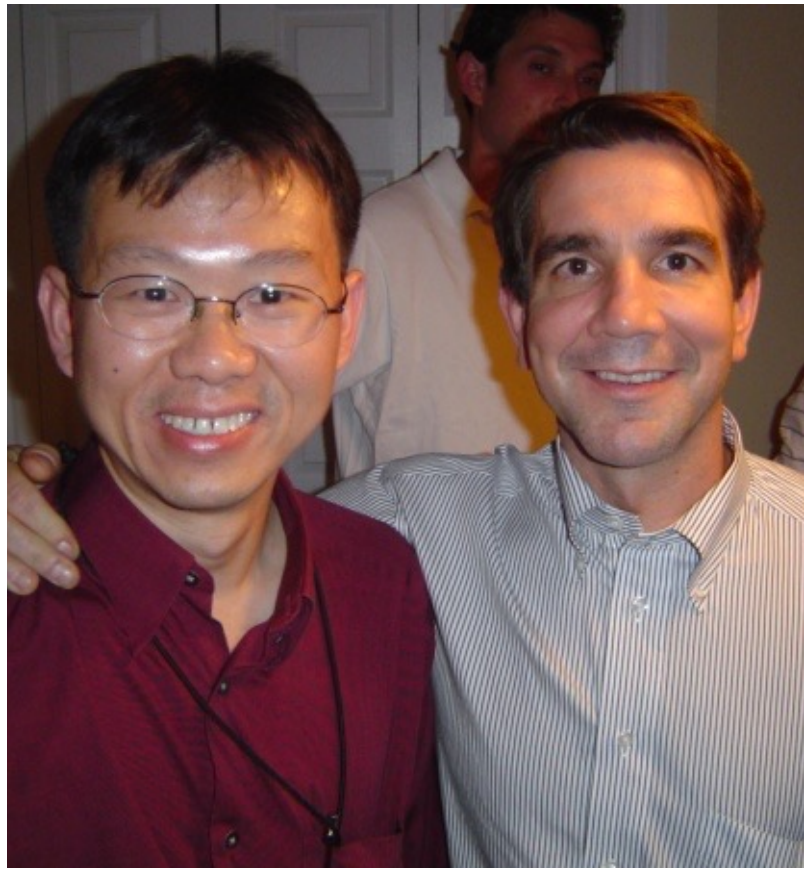
Minimally Invasive Surgery of Urology: Hopkins Series

30 Papers

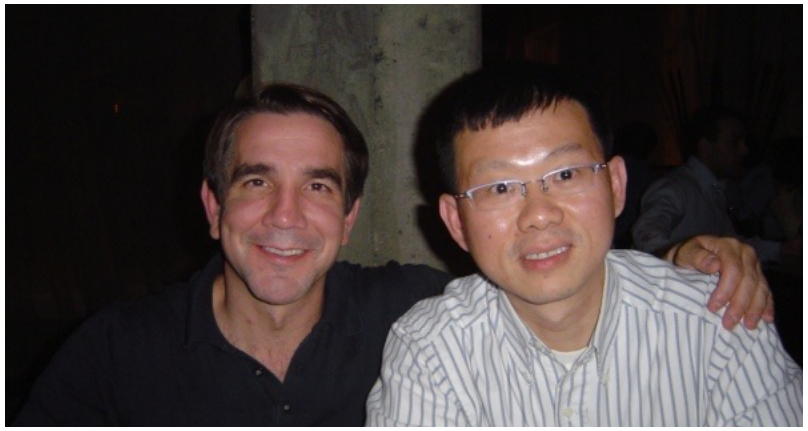
Sompol Permpongkosol, MD, Ph.D.

Division of Urology,

Department of Surgery, Ramathibodi Hospital, Mahidol University





Hopkins Alumni at AUA in every year

Certification

Osaka University

hereby confers upon

Sompol Permpongkosol

the degree of

Doctor of Philosophy in Medical Science

the Doctoral Program in Cource of Interventional Medicine
having been successfully completed
in the Graduate School of Medicine.

President of the University

Recipient's Date of Birth : August 2, 1964
Ser. No. : 1 7 6 7 5
Date of Issue : March 25, 2003

RÉPUBLIQUE FRANÇAISE

UNIVERSITÉ STRASBOURG 1

DIPLÔME D'UNIVERSITÉ

Vu le code de l'éducation

Vu la délibération du Conseil d'Administration de l'Université Louis Pasteur du 20 octobre 1998

Vu les pièces justificatives produites par M. Sompol PERMPONGKOSOL, né le 02/08/1964 à Bangkok (Thaïlande), en vue de son inscription au diplôme d'université de chirurgie laparoscopique.

Vu les procès-verbaux du jury attestant que l'intéressé a satisfait au contrôle des connaissances et des aptitudes prévu par les textes réglementaires

le DIPLOME D'UNIVERSITE DE CHIRURGIE LAPAROSCOPIQUE
est décerné à **M. Sompol PERMPONGKOSOL**

à compter du 20 juin 2003, pour en jouir avec les droits et les devoirs qui y sont attachés.

Le titulaire — Le secrétaire général — Fait à Strasbourg, le 8 SEP. 2005 — Le président

Sompol Permpongkosol — Jean DÉROCHE — Bernard CARRIÈRE

N° ACL20020201

The Johns Hopkins University

School of Medicine

Baltimore Maryland

This Certificate is awarded to

Sompol Permpongkosol

Upon Completion of a Research Fellowship in Urology

July 1, 2004 to June 30, 2005

Director of Department

Dean of the Medical Faculty

Baylor College of Medicine

Postdoctoral Fellowship Program

Houston, Texas

Sompol Permpongkosol, M.D., Ph.D.

has served satisfactorily as a research fellow in

Urology

13 months from 2005 to 2006

PROFESSOR AND CHAIRMAN
SCOTT DEPARTMENT OF UROLOGY

ASSOCIATE PROFESSOR
SCOTT DEPARTMENT OF UROLOGY

PROGRAM DIRECTOR
SCOTT DEPARTMENT OF UROLOGY

PRESIDENT

CHANCELLOR

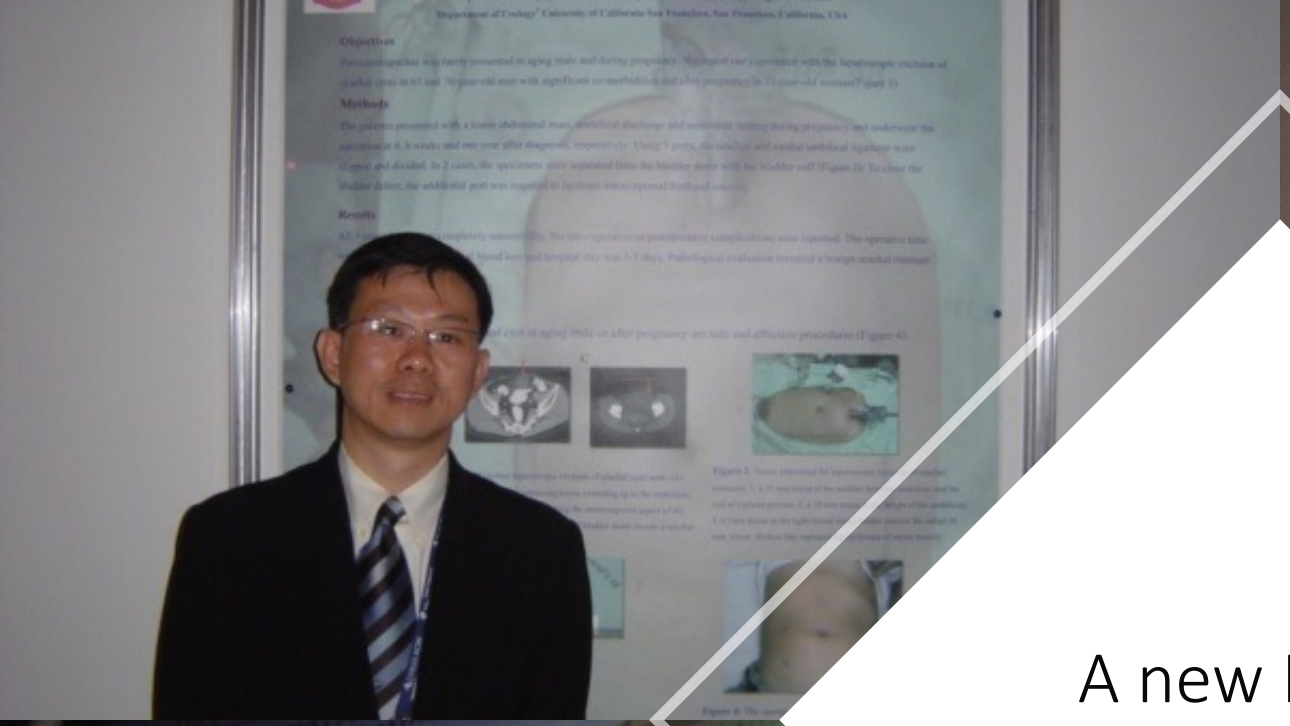
CHANCELLOR EMERITUS

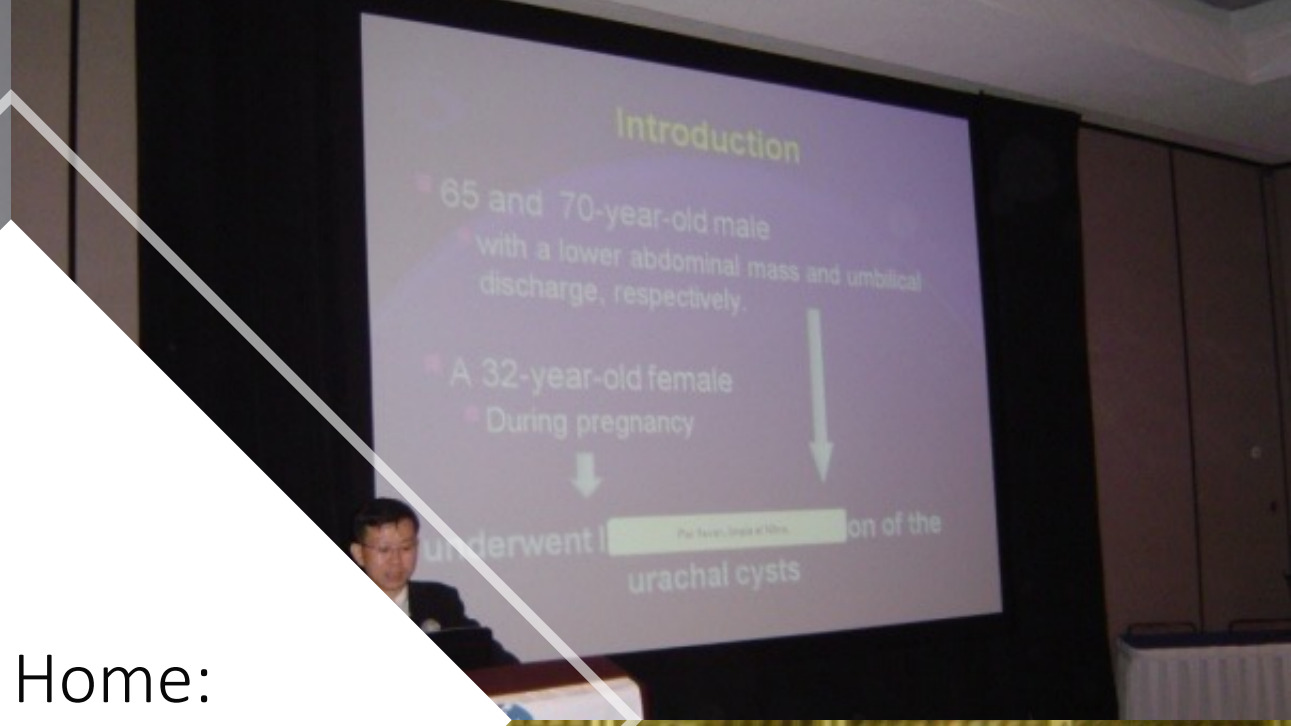
CHANCELLOR EMERITUS

June 30, 2006

The Best Video at the Thai Urological Association Annual Meeting
in Chaimai, Thailand, May 11-13, 2007

"Laparoscopic Extravesical Ureteral Reimplantation in the Management of Distal Ureteral Stricture at Ramathibodi Hospital"





A new Home: Ramathibodi Hospital

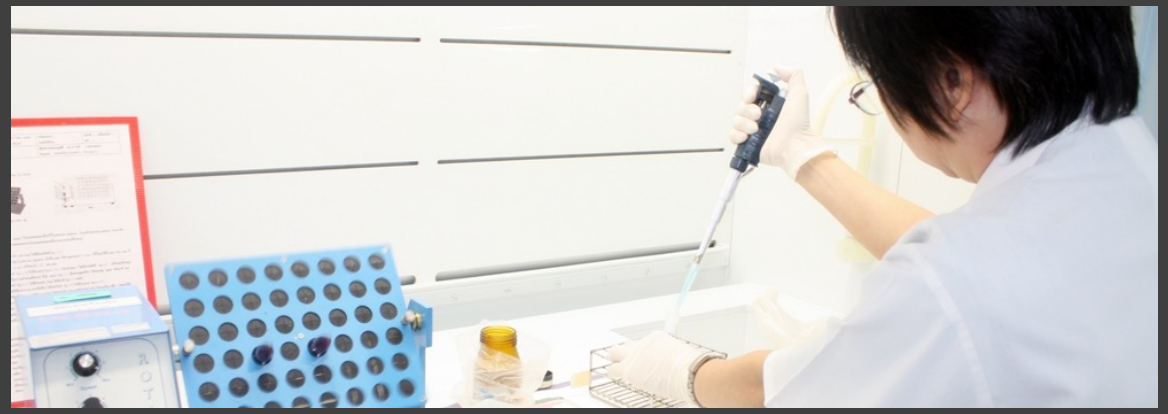
Clinical & Basic Researches on Testosterone undecanoate in Thai men with Late onset hypogonadism

Professor Sompol Permpongkosol, MD, PhD

Division of Urology, Department of Surgery

Faculty of Medicine, Ramathibodi Hospital

Mahidol University, Bangkok, Thailand



โครงการวิจัยและห้องปฏิบัติการ
คณะแพทย์ศาสตร์ โรงพยาบาลรามาธิบดี

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permpongkosol

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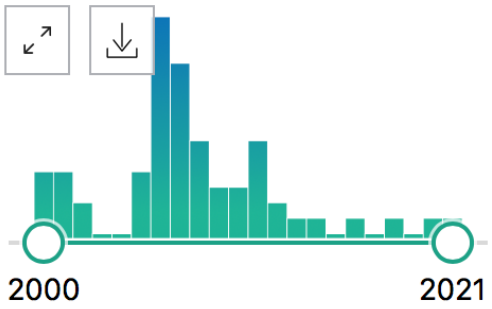

TEXT AVAILABILITY

- [ ] Abstract
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ARTICLE ATTRIBUTE

1 Cite Share

Laparoscopic radical nephrectomy: long-term outcomes.

Permpongkosol S, Chan DY, Link RE, Jarrett TW, Kavoussi LR.

J Endourol. 2005 Jul-Aug;19(6):628-33. doi: 10.1089/end.2005.19.628.

PMID: 16053350 Review.

2 Cite Share

Iatrogenic disease in the elderly: risk factors, consequences, and prevention.

Permpongkosol S.

Clin Interv Aging. 2011;6:77-82. doi: 10.2147/CIA.S10252. Epub 2011 Mar 21.

PMID: 21472095 Free PMC article. Review.

3 Cite Share

Primary carcinoid tumors of the kidney.

Romero FR, Rais-Bahrami S, Permpongkosol S, Fine SW, Kohanim S, Jarrett TW.

J Urol. 2006 Dec;176(6 Pt 1):2359-66. doi: 10.1016/j.juro.2006.07.129.

PMID: 17085102 Review.

Introduction

101

- Effects of 8-Year Treatment of Long-Acting Testosterone Undecanoate on Metabolic Parameters, Urinary Symptoms, Bone Mineral Density, and Sexual Function in Men With Late-Onset Hypogonadism.
- A prospective, multicenter study on efficacy of long-acting TU, if desired in combination with vardenafil, in LOH patients with erectile dysfunction
- Efficacy and safety of rosuvastatin in late-onset hypogonadism patients with dyslipidaemia.

THE JOURNAL OF
Sexual Medicine

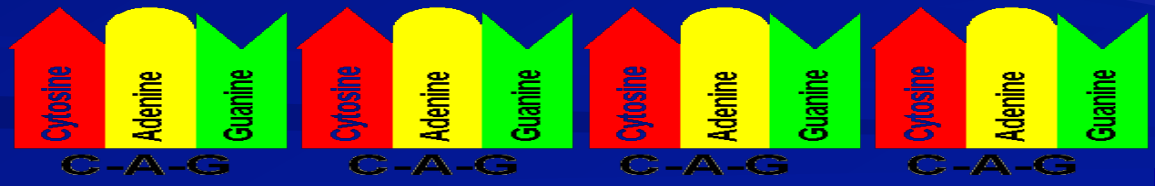
Permpongkosol S et al,
Effects of 8-Year Treatment of Long-Acting Testosterone Undecanoate on Metabolic Parameters, Urinary Symptoms, Bone Mineral Density, and Sexual Function in Men With Late-Onset Hypogonadism.
J Sex Med. 2016 Aug;13(8):1199-211.

CAG repeat polymorphism

- The Massachusetts Male Aging study
  - Total and free testosterone positively correlated with CAG repeat number

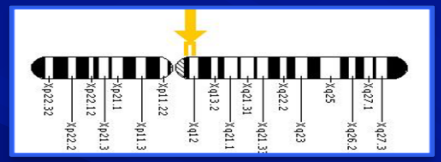
CAG number → Androgen receptor sensitivity

Risk of Prostate cancer



CAG repeat polymorphism

- Mean CAG repeat length differs between ethnic group
  - Afro-Caribbeans 18-20
  - Caucasian (Europe) 21-22
  - East Asian 22-23



Higher rate of prostate cancer

CAG repeat and Late onset Hypogonadism

??? ? Thailand ? ???

INTRODUCTION

Thai men with LOH have not been reported in	The longer follow-up effects of TU therapy are needed on
• The long-term effects of TU • Androgen receptor CAG repeat lengths.	• metabolic parameters, urinary symptoms, BMD, and sexual function.

Late-onset hypogonadism =LOH , Long-acting testosterone undecanoate =TU

Determination of AR CAG repeats

GGAGCTTTCCAGAATCTGTTCCAGAGCGTGCGCGAAGT
GATCCAGAACCCGGGCCCCAGG
. . . . . .AGGTCTTAGACAAGGTCTCGCACGCGCTTCA
CTAGGTCTTGGGCCCGGGGTCC

5-TCCAGAATCTGTTCCAGAGCGTGC-3

CACCCAGAGGCCGCGAGCGCAGCACCTCCCGGCGCCAG
TTTGCTGCTGCTGCAGCAGCAG
GTGGGTCTCCGGCGCTCGCGTCGTGGAGGGCCGCGGTC
AAACGACGACGACGTCGTCGTC

CAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA
GCAGCAGCAGCAGCAGCAGCAA
GTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGT
CGTCGTCGTCGTCGTCGTCGTT

- **81 patients**

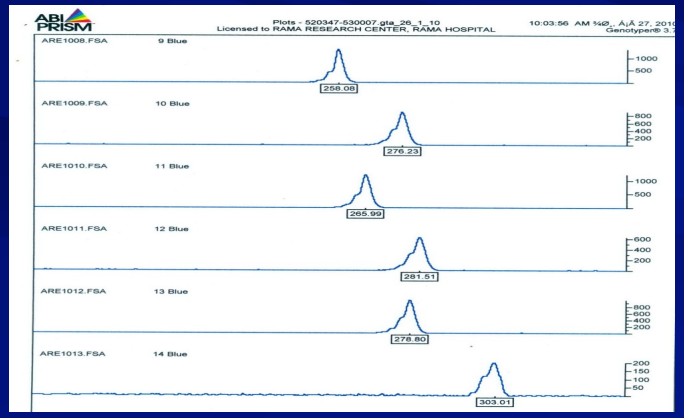
Whole blood sample

- DNA Extraction
- DNA Quantitation
- DNA Amplification

Fragment Analysis / sequencing

Evaluation

electropherogram



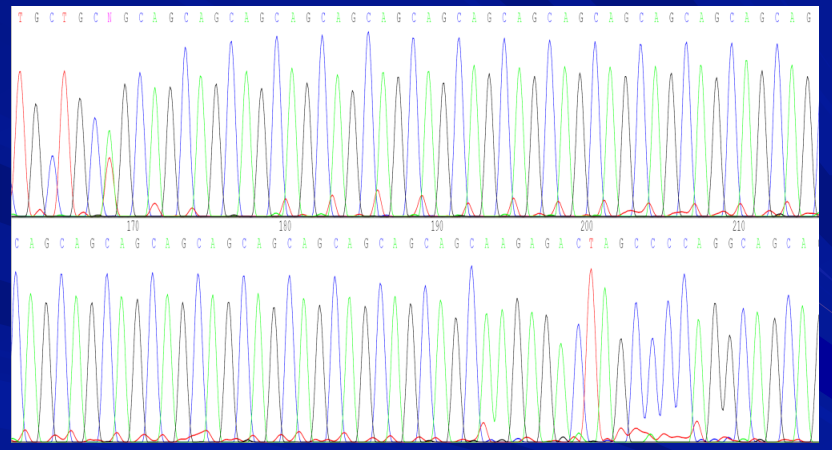
Gene Scan

23

3

1

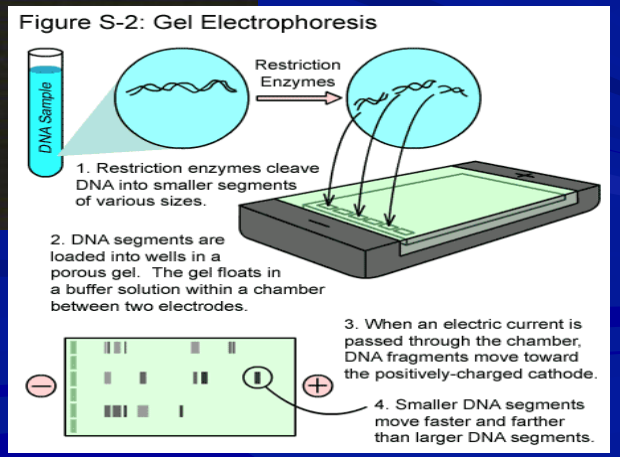
Chromotogram



an ABIPRISM 3100 Genetic Analyser (Applied Biosystems, Foster City, CA)

20 CAG trinucleotide repeats

Agarose gel electrophoresis



Conclusions

The CAG repeat length was

between 14 - 28

the median CAG length = 22

There was no association between the CAG repeat length and any of the anthropometric measurements.

Conclusions

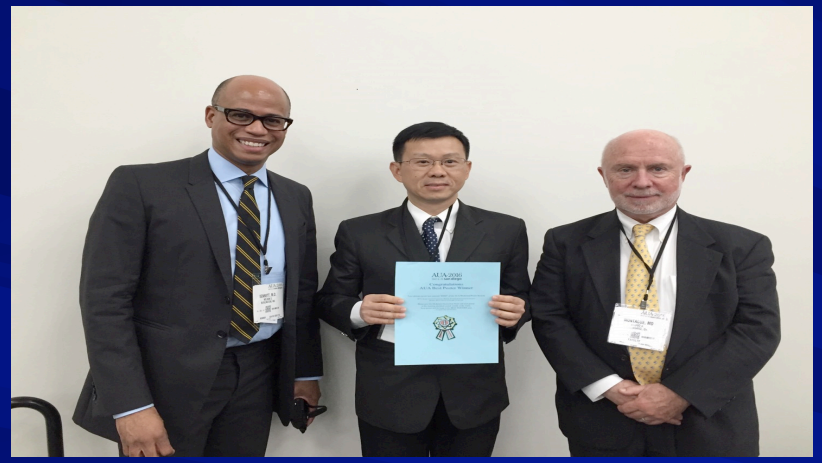
Long-term TU treatment in LOH men

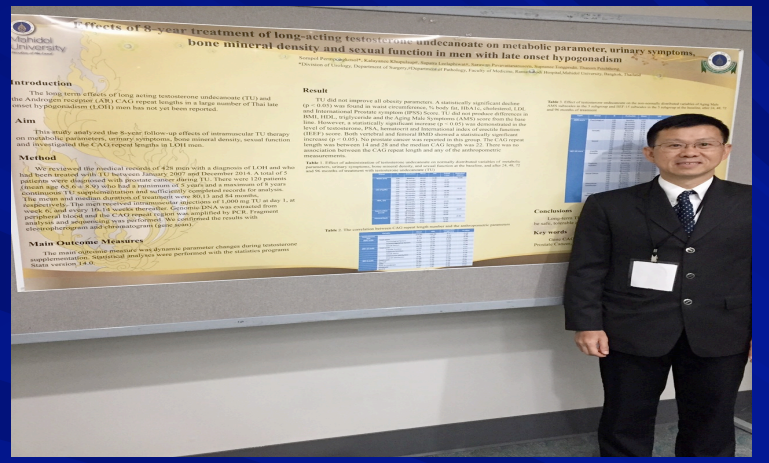
- for up to 8 years durations
- Safe, tolerable and effective in improving obesity parameters.

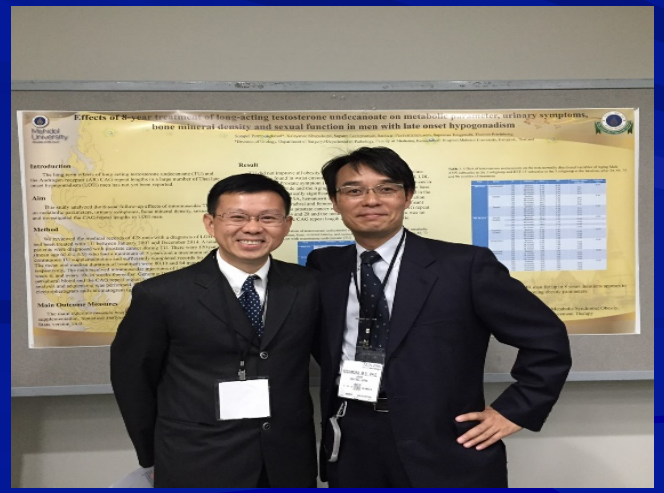
No association

- between CAG repeat length and any of the anthropometric parameters in Thai men with LOH.

The Best AUA Poster 2016







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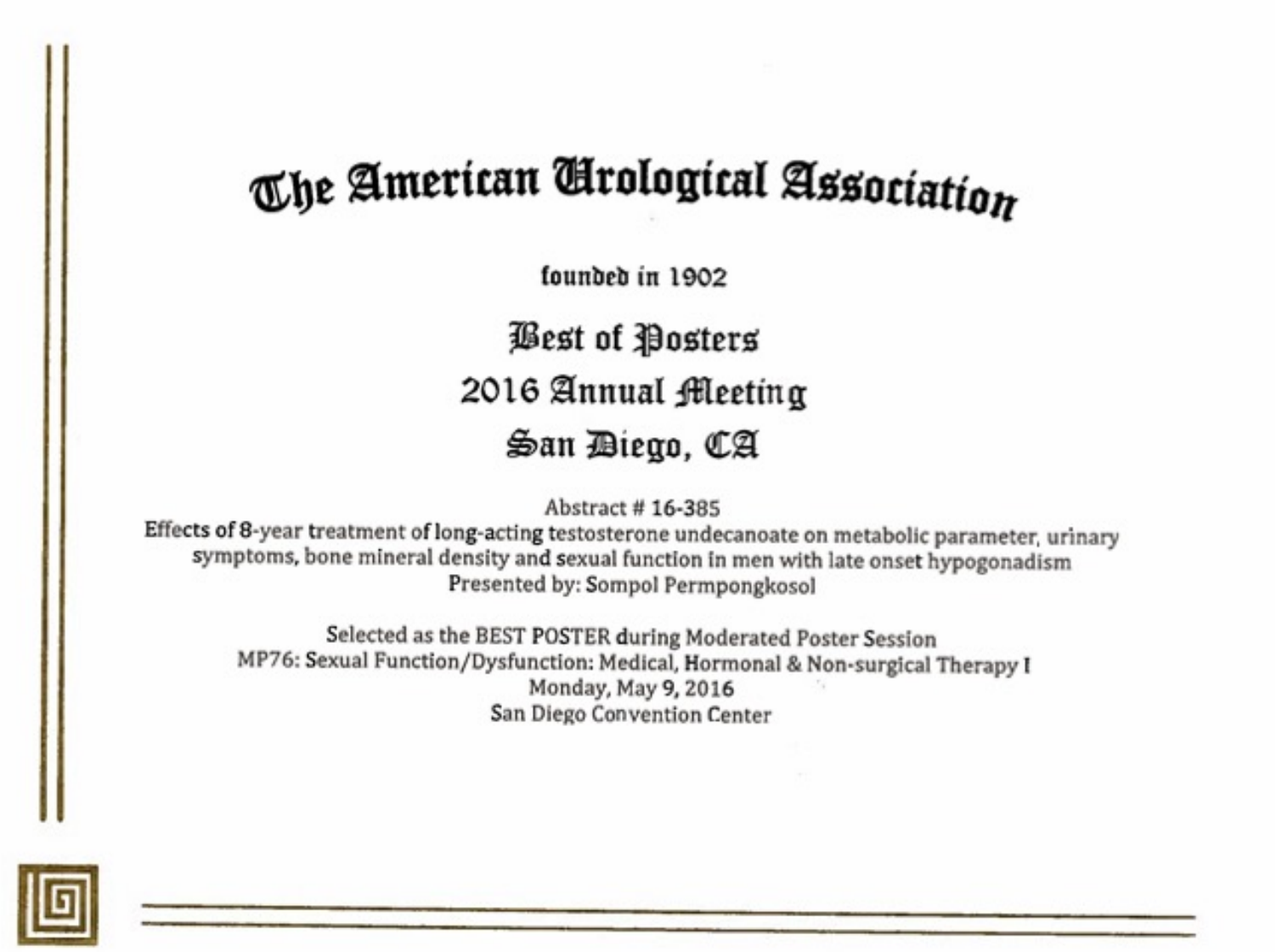

The American Urological Association

founded in 1902

Best of Posters
2016 Annual Meeting
San Diego, CA

Abstract # 16-385
Effects of 8-year treatment of long-acting testosterone undecanoate on metabolic parameter, urinary symptoms, bone mineral density and sexual function in men with late onset hypogonadism
Presented by: Sompol Permpongkosol

Selected as the BEST POSTER during Moderated Poster Session
MP76: Sexual Function/Dysfunction: Medical, Hormonal & Non-surgical Therapy I
Monday, May 9, 2016
San Diego Convention Center

Prof. Sompol Permpongkosol, M.D., Ph.D.

Department of Surgery, Ramathibodi Hospital, Mahidol University

October 19, 2020

“ What is Basic Research?”

Outlines

- What is basic research?
- Discovery of the world of research
- Molecular Biology for Surgeon
- My research and awards

Thank You