

Experience with Thermotherapy for Men with BPH (Lower Urinary Tract Symptom-LUTs)

**30 Years Experience in the San Francisco
Chinese Community**

Raymond Fay, M.D.

San Francisco, California

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Pathophysiology of BPH

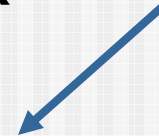
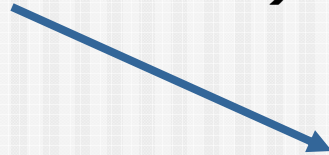
Microscopic BPH



Macroscopic BPH

SM Hyperplasia
(*ALPHA ONE TONE*)

Prostate Enlarged
(*MASS EFFECT*)



Bladder Outlet Obstruction



Clinical BPH/LUTS

Chinese BPH: History & Incidence

- **Chang & Char: Chinese Med. Journal 50: 1708. 1936(Peking Med. Union Hosp.). BPH rare in Chinese. Ave. age of death for Chinese males, 39 years.**
- **Fay: BPH in SF Chinese*. SFPRO Medicare Discharge Data (1979-1980):**
 - **Compared All SF Hosp(9). v. Chinese Hosp.:**
SF Hosp- 1.6%(1229/75,834). vs.
Chinese Hosp- 5.9%(135/2291)

*BPH. Hinman, F.(Ed. 1982)

BPH MANAGEMENT & CHINESE CULTURE

- Accept Obstructive Symptoms (LUTS) as part of Ageing & Status.
- Fear of Hospitalization: Place to die, rather than to get well.
- Fear of Surgery: “*see sow zhut*”
- Fear of loss of “Good Spirits”: “chee”
- Will accept lesser invasive procedures: “*juan gai sow zhut*”, not requiring opening of the abdomen (loss of “chee”).

Clinical Presentation 1976

- Age: 74 years (54-89)
- 48% Hypervolemic Sx.-CHF, Pulm. Edema, & CRF
- 35% BPH Symptoms
- 17% Acute Retention
- Duration of Symptoms: >18 months
- Most Common Sx.: Nocturia >3
- Associated Medical Problems:
 - 5.7% CAP,
 - 4.2% Bladder Stones.

BPH: Findings 1976

- Hydronephrosis with CRF- 2%
- Residual Urine(Ave): 170 cc (40-1200cc)
- Urosepsis: 7% (E. Coli)
- TURP Results (100):
 - **15 gms (2-98 gms)**
 - **4/100 transfused, surgical blood loss**
 - **90% voided next day after TURP**
 - **8% Postop. Retention**
 - **2% PE, voided when medically stable**
 - **1% Death from PE.**

Current Evaluation: History & Risk Factors

- Voiding Symptoms: ***IPSS- International Prostate Symptom Score (0-35)***
- Life Style Preferences- Diuretics & Fluids before sleep (late dinner and early to sleep. Soup with dinner).
- Sexual Activities (ED).
- Concurrent Drugs for treatment of Hypertension, Depression & Allergies.
- Personal Preferences for Management of BPH- Sal Palmetto (herbs), Chinese herbs
- Cultural Preferences: “See Sow Zhut”, Loss of “Chee”.

IPSS: Quantitative Score- 0-5, 7 Questions, Total: 35

- Urgency
- Nocturia
- Pushing to void
- Hesitancy-Intermittency
- Force & Strength of Stream
- Completeness
- Frequency
- ***Summary of IPSS:***
 - **>7-12/35: moderate symptoms**
 - **>12/35: significant symptoms**
 - **>18/35: severe symptoms**

Objective Assessments

- **IVP:** Not necessary (except, hematuria).
- **Prostate Ultrasound:** Necessary for sizing, defining prostate (BPH-zonal) anatomy & treatment plan selection.
- **Urodynamics, Cystoscopy, PSA, BUN & Creatinine:** Qmax, Pmax.flow, Residual Urine, Size & Lobes of Prostate, Severity of Obstruction
- **Management Options:** After completed assessments.

BPH: Treatment Options- Observation, Medical, or Surgical Therapy.

- **Mild Symptoms IPSS < 7 / 35:** Observation-50% spontaneously improvement.
- **Moderate Symptoms IPSS > 7 < 12:** Medical Mgr. (Alpha One Blockers: BPH < 40 gms. MTOP's Rx BPH > 40 gms, add 5 alpha reductase).
- **Severe Symptoms IPSS > 12:** Drugs, Thermal Therapies, TURP or Open Prostatectomy.
- **Absolute Indications** for Intervention: Acute Retention, Recurrent UTIs, CRF (hydronephrosis), & Gross Hematuria

Risks of Complications from Observation: BPH Progressive Disease.

BPH Olmsted County(2115/8344 person-yrs). UT 2/2000

- **Acute Urinary Retention:**
 - **IPSS >7: 40-49 y/o- 3/1000 person yrs
70-79 y/o- 34.7/1000**
 - **Qmax<12cc/sec: 4x risk**
 - **Prostate Volume >30 gms: 3x risk.**

- **Surgical Risk:**
 - **IPSS >7: 5.7x**
 - **Qmax <12 cc/sec: 5.9x**
 - **Prostate Volume >30 gms: 7.3x**

- **BPH: Progressive disease with increased risk of urinary retention and need for surgery in the ageing male.**

LUTS/BPH Treatment Options

<u>Surgery</u>	<u>Minimally Invasive</u>	<u>Medical Rx</u>
TURP	TUMT	Alpha Block.
TUIP	TUNA	"Balanced"
Open Prostat.	ILC	"Uroselective"
	EVP	5-Alpha reductase Inhibitors
	Laser ablation	Plant Extracts

TURP: Morbidity*

- **Death: 0.2%**
- **Sexual Dysfunction: 3.5-10.2%**
- **Incontinence: 0.4%-3.3%**
- **UTI: 2.3-8.4%**
- **Epididymitis: 1.2-4.8%**
- **Transfusion: 6.5-10.5%**
- **TUR Syndrome: 2%**
- **Redo: 12-20% after 8 years****
- **Patient dissatisfied with Outcomes: 21%**

*Mebust, et al. J.Urol. 1989

*Holtgrewe, et al. J. Urol 1989

**Wennberg et al. JAMA 198

Medical Management: Alpha One Blockers

- **Issues:** Durability, Toxicity, Complications(ED, syncope) & Costs.
- **Alpha One Selectivity:** Hytrin, Cardura & Flomax(uroselective)
- **Tolerance:** Tachyphylaxis
- **Acute Retention:** Size of Prostate
- **Results:**
 - 100% Improvement in IPSS
 - 42% Improvement in Qmax
 - No Change in Residual Urine

Medical Management: 5 alpha reductase inhibitor.

- 50% Prostate Volume & PSA Decrease.
- Increase Flow by 3.7cc/sec.
- No statistical Improvement of Sx alone.
- Lowered Incidence of Retention is Prostate Volume >60 ml.
- Minimum: 6 months of therapy
- Improved results when combined with alpha one blockers (MTOPS).

Surgical Options: Vanishing Standard

- Transurethral Prostatectomy(TURP):
“Gold Standard”
- Transurethral Incision of the Prostate:
TUIP, <30 gms.
- Thermal Therapies: FDA Approved
 - **Radio-wave**
 - **Microwave**
 - **Laser (Diode)**
 - **Green Light Laser**

Results of Thermal Therapies

	TUNA	LASER	M-WAVE
IPSS	100%	100%	100%
Q-Max	60%	58%	45-49%
Residual	61%	>53%	NS
Durability	>5 yrs	5 yrs	5 yr.
Advantages	Loc., SDS, few compl. Short treat. time.	OPD, MAC, Min. complic., Pt. Satis	OPD, Sedation,
Complications	Catheter: 50%, 3 days. Gradual.	UTI, catheter(8.9) Urgency, Retention	Retent, UTI, Mac Cath(17.5) Epid., Strict., Long Rx. Time 7

BPH Surgical Treatment Outcomes*

AHCPR

	TUIP	OPEN	TURP	MIN.
IPSS	51%	79%	85%	90%
Morb.	1.8-9.9%	7-43%	5-31%	1-50%
Death	0.2-1.5%	1-4.6%	0.5-3.3%	<1%
Inc.(T)	0.1-1.1%	0.3-0.7%	0.7-1.4%	<1%
Re-op	1.3-2.7%	0.6-14%	0.7-10%	?>10%
Impot.	4-25%	5-40%	3.3-35%	?<1%
Re-Ejac	6-55%	36-95%	25-99%	?<1%
Days Off	7-21	21-28	7-21	7-10
Hosp.	1-3	5-10	3-5	NONE

Current Management Considerations-BPH

- Severity of Obstructive Symptoms: IPSS
- Patient Cultural Preferences: “see sow zhut”
- Life-Style Considerations: Sexual Activities
- Cost, Outcomes, Risks, Benefits, Complications & Durability
- Prostate Size (anatomy) & Previous Treatment Failure
- HMO & Managed Care Preferences
- Access to New Technologies

BPH: Thermotherapy

Conclusions

- Thermotherapy: Culturally sensitive options for Chinese patients.
- Moderate symptom improvement with minimal side effects & durability.
- Outpatient therapy with local anesthesia
- Competitive Energy Options
- Evolving Technologies: Many choices based upon complex evaluations.