Surgical Treatment of BPH: Common Issues and Practical Solutions

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Objectives:
• Describe current epidemiological trends in BPH and BPH surgery
• Discuss current surgical modalities for, and evidence-based outcomes of, BPH surgery in high-risk patients
• Describe evidence-based, practical solutions for common operative, peri-operative, and post-operative complications of BPH surgery in high risk patients
Surgical Treatment of BPH

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Declarations

- American Medical Systems.
  - Lecturer.

- Sophiris.
  - Consultant.

- Watson.
  - Consultant.
Goals

• Review current BPH epidemiology and BPH surgery.

• Review evidence-based indications for BPH surgery.
Goals

- Review evidence-based surgical principles.
  - Simple prostatectomy
- TURP
- Laser therapies
- Transurethral vaporization
BPH Risk Factors

- Genetics
- Hormones (DHT)
- Age
- Lifestyle
- Inflammation
Modifiable Risk Factors

**Increased Risk**
- Obesity
- Diabetes
- Cardiovascular Disease

**Decreased Risk**
- Exercise
- Alcohol (moderate)
- Vegetables
U.S. Incidence of Symptomatic BPH

http://www.UDAonline.net
Discharges for BPH
Nationwide Inpatient Sample, 1998-2008

Stroup et al., BJU Int 2012
Discharges for BPH and Renal Failure
Nationwide Inpatient Sample, 1998-2008

Proportion of Discharges

1º BPH + Acute Renal Failure, p<0.001

Year

Stroup et al., BJU Int 2012
Probability of Incident BPH in the Prostate Cancer Prevention Trial, Men ≥ 65 Years

Parsons et al., *Euro Urol* 2012
Probability of Clinical Progression in the MTOPS Trial

Incidence of Urinary Retention California Emergency Rooms, 2007 to 2010

Odds Ratio

Groves et al, Prostate Cancer Prostatic Dis, 2013

35% Increase
Epidemiology and BPH Surgery

- Aging population
- Chronic BPH medication use
- Increased prevalence of metabolic syndrome
- Increased cardiac disease survivorship
  - Chronic anti-coagulation

*Increasing need for complex BPH surgery??*
Surgery: Absolute Indications

- Urinary retention
- Recurrent urinary infections
- Refractory gross hematuria
- Bladder stones
- Renal insufficiency secondary to BOO
- Failure of LUTS medical management
Surgery: Relative Indications

- Moderate to severe LUTS and patient preference

- Bladder diverticulum is **not** an indication **unless** associated with:
  - Urinary infections
  - Progressive bladder dysfunction
Surgery

- Simple Prostatectomy
- TURP
- Laser Therapies
- TUVP
Simple Prostatectomy

Open

Robotic
Open Simple Prostatectomy

• Typically for prostates > 80 cc to 100 cc

• Suprapubic or retropubic approaches acceptable

• Compared to TURP, significantly increased risks of:
  • Blood loss
  • Transfusion (20% in Nationwide Inpatient Sample)
  • Longer hospital stays (mean 5 to 11 days)

Robotic-Assisted Simple Prostatectomy

- AUA Guidelines Panel (2010): “investigational” therapy
  - “Insufficient evidence on which to base recommendations.”

- 9 published non-comparative case series (n=125 patients)*
  - Transfusion rate = 0% in the majority (80%) of studies
  - Mean length of stay: 1.3 to 3.2 days
  - Post-operative outcomes similar to open

Robotic-Assisted Simple Prostatectomy
Personal Observations

• Skills readily transferable from robotic radical prostatectomy
• Substantially decreased bleeding and transfusion
• Decreased LOS (UCSD median = 1 day)
• Suprapubic approach: ureters easily identified
• Key technical point: traction suture on gland
  • 0 Silk figure-of-eight through median lobe
TURP

• Still considered the gold standard for endoscopy

• The VA Cooperative Study (1995)
  • 1% risk of urinary incontinence, similar to watchful waiting
  • Decline in sexual function identical to watchful waiting

• Insufficient evidence to recommend peri-operative finasteride to prevent bleeding
TURP (11 RCTs)

Monopolar
- Improved urinary symptoms, QoL, and flow
- No change in Hgb
- Drop in serum Na
- TUR syndrome

Bipolar
- Improved urinary symptoms, QoL, and flow
- No change in Hgb
- No drop in serum Na
- No TUR syndrome
Laser

HoLAP  HoLEP  HoLRP  PVP
Laser: General Outcomes

• All are associated with:
  • Significantly decreased urinary symptoms, improved QoL, and increased flow
  • Outcomes and safety comparable to TURP (but with patient selection biases)

• Laser choice based on preference and experience
HoLEP Compared to TURP

**Advantages**
- Effective for very large glands
- Transfusion < 1%
- Hospital stay shorter or comparable

**Disadvantages**
- Challenging learning curve
- Longer term data limited
- Increased incontinence?
- Increased post-op storage symptoms?
PVP Compared to TURP

**Advantages**

- Transfusion < 1%
- Safe continuation of perioperative anticoagulants
- Hospital stay shorter or comparable

**Disadvantages**

- Longer term data limited
- *Increased post-op storage symptoms and dysuria?*
- *Increased need for retreatment?*
Laser Surgery
Personal Observations

• Diminished bleeding and transfusion compared to TURP
• Safe to continue ASA 81 mg
• Robust outcomes for urinary retention\(^1\)
• Finasteride potentially decreases bleeding risk\(^2\)
• Greenlight enucleation in appropriate patients is feasible and effective

1. Woldrich et al. *BJU Int* 2012
Laser Surgery
Personal Observations: Post-op Meds

• Ketorolac (Toradol®) 15-30 mg IV in recovery room
• Pyridium 200 mg tid x 5 days
• Medrol Dose Pack
• Alpha blocker x 30 days (if tolerated)
• Finasteride x 30 days
• (Consider anti-cholinergic)
Transurethral Electroevaporization

• Updated version of the roller ball.

• “The button.”

• 10 RCTs comparing TUVP to TURP
  • Equivalent short term improvements in symptoms, QoL, and flow
TUVP Compared to TURP

Advantages

- Equivalent short term outcomes
- Decreased risk of TUR syndrome
- Decreased transfusion

Disadvantages

- Higher post-op retention
- Increased post-op storage symptoms and dysuria
- Longer term data limited
- Higher retreatment rates
BPH Therapies

TUMT
TUNA
Prostatic Lift

TUVP
TURP
Laser Therapies

Simple Prostatectomy

Invasiveness
Summary of BPH Therapies

Ease of Use
Minimal Morbidity
Minimal Ejaculatory Problems

versus

Definitive Efficacy
More evidence favoring durability of results

Invasiveness
Take Home

• Consider:

  • The patient’s individual situation and preferences.

  • The absolute indications for surgery per AUA Guidelines.

  • Your personal preferences and expertise.