EAU 2014
BPH, LUTS - medical, surgical management update
전남대 강택원
Plenary session 3
Refractory problems in functional urology

SIU lecture
  Urodynamics in refractory LUTS

CAU lecture
  Optimizing the management of bladder emptying problem

State of the art lecture
  OABs pharmacological therapy

EAU guidelines snapshot – optimizing clinical assessments for LUTS

State of the art lecture – etiology and management of residual LUTS after prostatic surgery

Debate – botulinum toxin or sacral neuromodulation

State of the art lecture – how to treat sphincteric incontinence after radiation

Clinical discussion - refractory cases of SUI

Update – painful bladder syndrome

State of the art lecture – urinary diversion
Sponsored sessions

**GSK** - Impact of beliefs and evidence of initial BPH medical treatment decisions in the real-world

**Astellas** - The assembly instructions: user guide on male LUTS

**Allergan** – The genesis of urgency: Unravelling the symptom complex of OAB (BOTOX)

**Recordati** – LUTS/BPH: how can we improve the relevance of clinical studies to real life? (silodosin)

**Lumenis** – HoLEP and beyond: An instructional workshop

**Astellas** – OAB: Scientific theories becoming clinical practice: Past, present and future
ESU course

Modern management of BPO

V.A.C. Ramani, Manchester (GB)

BPH: Diagnosis and Medical treatment

K.M. Anson, London (GB)

Surgical management – Electrosurgery

R.M. Kuntz, Berlin (DE)

Surgical management - Laser and less invasive options
Modern management of BPO
BPH: Diagnosis and Medical treatment

Figure 2. Specialized management of persistent, bothersome LUTS after basic management. Rx, treatment
BPH is a Progressive Disease

The Factors that Progress (change or get worse)

1. Symptoms / Bother - (IPSS > 7)
2. Flow rate - < 12 mls/sec
3. Prostate Size – ~ 30 mls
   Prostate Growth Rate / Prostate Volume
4. PSA > 1.4 ng/ml
5. Risk of Acute Urinary Retention
6. Residual volume
7. Prostatitis / Inflammation

Age

Summary 3 - Management Options

- Behavioural Treatment

- Drug Treatment
  - \(\alpha\)-blockers
  - 5\(\alpha\)-reductase inhibitors
  - muscarinic receptor antagonists
  - plant extracts
  - desmopressin
  - combination therapies:
    - \(\alpha\)-blocker + 5\(\alpha\)-reductase inhibitor
    - \(\alpha\)-blocker + muscarinic receptor antagonist
  - New emerging drugs: PDE5 inhibitors ± \(\alpha\)-blocker

- Surgical Treatment
LUTS / BPH Summary - 4

Bother / IPSS > 7
- Alpha Blocker
  - Rapid Relief of Symptoms
  - Does Not Alter Natural History

Risk of Progression
- 5 Alpha Reductase Inhibitors
  - Slower Improvement in LUTS due to BPE
  - Alters Natural History (PV > 30 – 40 mls and PSA > 1.4 ng/ml)

Both
- Combination Therapy
  - Improves Symptoms
  - Alters Natural History – Reduces Risk of Retention and BPH Surgery
Surgical management – Electrosurgery

The position of TURP in 2014

- Historical perspectives
- Evidence base
- Indications for intervention
- Can we make TURP better?

TURP in 2014

- Improved electrosurgical units
  - Pure cut and spray modes
  - High amplitude, pulse modulated sinusoidal voltage can improve coagulation during cutting-transfusion rate of 2.6% in 271 patients
  - More efficient feedback systems

Day-case catheter-free?

- 64 patients with small prostates (17-50ml)
- Spinal anaesthetic
- Op time 37 mins, mean 22 grams resected
- Irrigation stopped at 4 hrs
- Catheter removal 7.1hrs
- 98% home within 23hrs
Surgical management – Electrosurgery

**Bipolar technology**

- Randomised multicentre trial M-TURP vs B-TURP
- 295 patients, 279 treated and 186 assessed at 36 months (midterm)
- Comparable safety and efficacy
- 4.3% “failure to cure” – retreated
- Number of different delivery systems (vapourisation versus chip removal)
- All allow treatment in saline
- Number of different energy sources
- Initial and some medium term results – encouraging safety, slower, volume of tissue removed

**Surgical options - electrosurgery**

- Established technology
- Good durable outcomes
- Relatively cheap
- Index procedure for all Urologists
- Bipolar technology probably way forward

Remains gold standard
Surgical management - Laser and less invasive options

HoLEP..

- Urological Swiss army knife
- Ideal intracorporal lithotriptor
- Incision of structures at any site
- Transitional cell tumor ablation
- New gold standard of BPH surgery
Surgical management - Laser and less invasive options - HoLEP

Less blood loss, shorter catheterization, shorter hospital stay as compared to open prostatectomy (OP) and TURP

As effective as OP and even more effective than TURP in terms of micturition improvement

Micturition improvement is durable

Can be performed on prostates of all sizes

Is a true endourological alternative to OP

Enables precise histological examination of removed prostatic tissue

Compares favorably with KTP laser vaporization
Surgical Mx – Laser, less invasive options

**TAKE HOME MESSAGE**

- **KTP laser** is relatively widely used
  - Advantages: easy to learn, safe, effective, can be used in anticoagulated patients
  - Disadvantages: no histology, less volume reduction than HoLEP, limited randomized and comparative studies, no long-term result (re-operation rate?), extremely high fiber costs, BPH-only laser

- **Nd: YAG laser VLAP** is outdated

- Only **interstitial laser coagulation (ILC)** is still used in some centers

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Surgical Mx – Laser, less invasive options

**TAKE HOME MESSAGE**

- Thulium laser and holmium laser wave-lengths have similar properties
- The continuous wave output of thulium laser enables smooth cutting
- ThuLRP, ThuLEP are safe and effective
- ThuLRP is easier to perform than HoLRP
- HoLEP is easier to perform than ThuLEP
- ThuLEP randomized clinical trials, large case series and long-term results are rare
Surgical Mx – Laser, less invasive options

**TAKE HOME MESSAGE**

- The use of diode lasers in prostate surgery is experimental
- Relevant clinical data are missing

- There is a general trend towards enucleating techniques
- Resection is more effective than vaporisation
- Enucleation combined with mechanical tissue morcellation is more effective than resection, especially in larger glands
Thematic session

Prospective RCT comparing GreenLight (GL) 180-W XPS PVP and TURP (the Goliath Study): Patient questionnaires and one year follow-up

XPS and TURP show comparable subjective and functional results after one year follow-up. IPSS for XPS remains non-inferior when compared to TURP and the complication free rate continues to be slightly better in the XPS arm compared to the TURP arm (not statistically significant). Taken together, these data demonstrate that clinical assessments of efficacy and safety at 6 and 12 months are similar between XPS and TURP.
### Thematic session

**Surgical management of benign prostatic obstruction: Current practice patterns and attitudes in Europe**

| Type of procedure used by the urologists | TURP or B-TURP | TUIP | TUMT | TUNA | HoLEP | HoLRP | "Green Laser" | Open prostatectomy | Prostatic stent | Intra-prostatic injection | Patient's preferen. |
|----------------------------------------|----------------|------|------|------|-------|-------|---------------|-------------------|----------------|----------------------|--------------------|-------------------|
| % of overall number (95% CI)           | 69,6% (65-74)  | 48,4% (42-54) | 22% (15-29) | 21,5% (14-29) | 34,7% (28-41) | 22,5% (15-30) | 37,8% (31-44) | 63,6% (59-69) | 24% (17-32) | 21% (17-28) | 19% (12-27) |

This survey provides a comprehensive description of how European urologists diagnose and manage BPH/LUTS and BPO. Most urologist recommend medical alpha-blocker therapy as first-line treatment. The most popular surgical procedure remains TURP. Open prostatectomy still has an established role. Lasers procedures are chosen/used by a significant but still minority group of practising urologists. Importantly, the EAU members asked seem to investigate and treat male LUTS patients in concordance with current EAU guidelines.
Abstracts

The adherence to the BPH/LUTS medical therapy is low and influences the major clinical outcomes: results from an Italian observational study

Only the 29% of BPH/LUTS patients receiving medical therapy continues the regimen up to 12 month. The not adherence to the prescribed pharmacological regimen exposes the patients to the clinical BPH progression in terms oh hospitalization for medical and surgical reasons.
Abstracts

Serenoa repens, lycopene and selenium vs tamsulosin in the treatment of LUTS/BPH: An Italian multicenter randomized comparative study between single or combination therapies (Procomb Study)

Combination therapy was more effective than monotherapies in terms of reduction of the IPSS and of increase of peak flow after 1 year. In this context, one may suppose to use combination therapy with Ser 320 mg + Se + Ly and tamsulosin really in subjects with moderate LUTS/BPH and with chronic inflammation of the prostate, in order to optimize the benefits of both drugs.
Abstracts

Under-diagnosis and sub-optimal treatment of LUTS/BPH: Results of a real world survey of patients in Europe

This recent real world patient survey suggests not only frequent under-diagnosis of male patients with LUTS/BPH but also many patients who may not be receiving optimal therapy.

Patients inadequately controlled on either an α-blocker or antimuscarinic agent alone should be considered for combination treatment of their storage and voiding symptoms associated with LUTS/BPH.

In addition, physicians may wish to consider whether those patients who appear satisfied with monotherapy might be better controlled by switching to combination treatment.
Abstracts

ALFUZOSIN AND FLURBIPROFEN COMBINATION THERAPY
FOR THE MANAGEMENT OF LOWER URINARY TRACT SYMPTOMS

Comparison of pre and post treatment variables of three groups

A combination of an alpha blocker alfuzosin with flurbiprofen which is a member of the phenylalkanoic acid derivative family of nonsteroid anti-inflammatory drugs, is superior to alfuzosin or flurbiprofen alone for the treatment of LUTS secondary to BPO regarding uroflowmetric parameters.
Satisfaction with Tadalafil or Tamsulosin once daily for the Treatment of LUTS/BPH: Treatment Satisfaction Scale Questionnaire Results from a Randomized, Double-Blind, Placebo-Controlled Trial

Tadalafil 5 mg resulted in greater overall treatment satisfaction versus placebo, resulting from greater satisfaction with efficacy.
Abstracts

Patient satisfaction with the safety and efficacy of fixed-dose combinations of solifenacin and tamsulosin OCAS™: Results from the NEPTUNE II study

- Clinically relevant improvements in total IPSS, micturition frequency and QoL achieved in NEPTUNE with FDC Soli + TOCAS were maintained for up to 52 weeks in NEPTUNE II.
- The proportions of patients with total IPSS < 8 or < 8 micturitions/24 h (indicative of normalisation of symptoms) increased from 0.1% and 0.0%, respectively, at baseline to 42.6% and 37.2% at end of treatment.
- The majority of patients were satisfied with both the efficacy and safety of up to 52 weeks’ treatment with FDC Soli + TOCAS.
Abstracts

The “Silodosin in Real-life Evaluation (SiRE)” study: a European phase IV clinical study with silodosin in the treatment of LUTS/BPH

- In the SiRE study, in “real life” patients frequently affected by concomitant diseases and taking concomitant medications, silodosin significantly improved LUTS;
- The overall adherence to therapy was good, with only a few patients discontinuing treatment;
- More than three quarters of the patients responded to treatment with silodosin; this rate was higher than that (68%) previously reported in a Phase III European trial;
- Silodosin significantly improved the most bothersome/most frequent symptoms and almost 3 out of 4 patients reported to be satisfied with the study drug;
- As expected, ejaculation failure was the most frequently reported treatment related AE; however, this led to discontinuation only in a few patients; In addition, despite the high number of patients with concomitant cardiovascular diseases or taking antihypertensive drugs, hypotension was observed only a few cases
- In conclusion, the SiRE study confirmed and extended the results previously observed in randomised, double-blind, controlled pivotal clinical trials.
Abstracts

Comparison of the short-term changes of prostate volume in men with BPH after discontinuation of dutasteride and finasteride

- Six months after withdrawal of the 5ARIs, the prostate volume had increased by about 25% in both groups.
- Prostate regrows more quickly in the early stage of discontinuing finasteride in men with combined medical therapy due to BPH, as compared to discontinuing dutasteride.
Should patients with low IPSS scores be offered pharmacological treatment?

- In urological consultation, patients with low IPSS scores frequently report significant impact in QoL. Some of them are objectively obstructed and shouldn’t be excluded from pharmacological treatment.
Abstracts

New alternative method of gross BPH treatment – endovascular superselective embolization of prostatic arteries

- Our results demonstrate that ESEPA may be considered as the real alternative technology for BPH treatment in patients with large prostate volume. Highly attractive advantages of ESEPA include minimum inpatient period, almost total absence of complications, fast and careful restoring of patient’s voiding and quality of life.
Abstracts

Temporary bilateral internal iliac arteries clamping during robot-assisted laparoscopic simple prostatectomy (RASP): our experience

- In our experience, robot assisted laparoscopic simple prostatectomy performed with bilateral internal iliac arteries clamping, combines the benefits of minimally invasive surgery with bleeding reduction.
- The minimal blood loss reduces catheter duration, continuous irrigation and, accordingly, patient’s hospitalization.
- We believe that this approach could be a safe surgical option for the treatment of large prostatic adenomas (> 80 mL).
Abstracts

Dutasteride can reduce intraoperative bleeding during transurethral resection of the prostate: evaluation of vascular endothelial growth factor (VEGF) and CD34

Our study used VEGF and CD34 antibodies, starting from preclinical study in rats, to determine microvessel density in patients with BPH. We intending to demonstrate a correlation between dutasteride action and the vascularization of hypertrophic prostate tissue. We clearly demonstrated that VEGF and CD34 values were firmly lower in patients pretreated with dutasteride than placebo; therefore, a correlation exists. Finally our results suggest that dutasteride reduces intraoperative TURP bleeding, as demonstrated by MVD reduction in hypertrophic prostatic tissue.
Abstracts

Patients with metabolic syndrome and prostatic inflammatory infiltrates presented higher post-operative storage symptoms when treated with TURP: a single centre cohort analysis

- MetS was associated with prostate inflammation.
- Pts with inflammatory infiltrates mostly benefit from TURP, particularly regarding storage symptoms.
Abstracts

The test of time for new advances in BPH endoscopic treatment – Prospective, randomized comparisons of bipolar plasma enucleation versus open prostatectomy and continuous versus standard plasma vaporization and monopolar TURP

When compared to the standard techniques, BPEP and respectively C-BPVP and S-BPVP procedures displayed good surgical efficiency, similar BPH tissue removal capabilities, superior perioperative safety profile with markedly reduced bleeding risks, faster postoperative recovery and satisfactory medium and long term follow-up symptom scores and voiding parameters.

The continuous plasma vaporization advancement provided a substantial decrease in surgical time while the plasma enucleation innovation emphasized fewer immediate complications.
Abstracts

Transurethral Water Vapor Therapy for BPH; A Single Centre’s Experience Using the Rezūm® System

The Rezūm System can be safely performed. Rapid clinical improvement in all parameters is promising and occurs with minimal, transient adverse effects. The Rezūm System may be a promising treatment alternative to other BPH treatment options in Sweden.

- Effective, rapid, controlled prostate tissue ablation - Treatment injection time = 9 seconds
- Total steam treatment contained within the transition zone - MRI confirmed
- Significant Improvement in IPSS, QoL, Qmax and PVR at 3 Months
- Positive patient experiences reported at 1 week and 3 months postprocedure
- No de novo urinary Incontinence, erectile dysfunction, ejaculatory dysfunction
- No rectal injury
Characterizing Rezūm® System Water Vapor Treatments for Benign Prostatic Hyperplasia with Serial MRI and 3D Rendering

MRI studies:
- Validated the physics of convective heating with thermal lesions limited to the T zone;
- Quantified a significant volume of treated tissue;
- Confirmed rapid, near complete resolution if imaged lesions by 6 months;
- Demonstrated reduction in total prostate volume from baseline supporting probable clinical benefit
Abstracts

A long term solution in secondary bladder neck sclerosis cases – Bipolar plasma vaporization overcoming standard TUR in a prospective, randomized comparison

BPV represents a reliable treatment approach for secondary BNS patients, favorably comparable to standard TUR in terms of surgical efficiency, perioperative morbidity and postoperative recovery. The method emphasized similar long term follow-up symptom scores and voiding parameters when compared to monopolar resection as well as a significantly reduced BNS recurrence rate when compared to standard TUR.
Abstracts

Insertion of rectal balloon post TURP is a simple, safe and effective procedure. It reduces the post-operative blood loss by compressing on the blood supply of the prostate from the rectum. Also it decreases blood transfusion incidence, saline for irrigation, and shortens the catheterization period, hospital stay and cost effectiveness, without rectal complication.
The numbers of TURPs continue to decline which raises potential training issues. Retention is still, by far, the commonest indication. There is, however, a significant rise in the percentage of men presenting for TURP with HPCR.

- No significant change in the weight of resection and operating time observed. Higher rates of secondary haematuria and bladder neck stenosis were noted.
- The number of patients that have bladder dysfunction who either have persistent storage LUTS or who eventually required LTC or ISC has markedly increased which raises the question about the long term real life impact of medical therapy on men with LUTS-BPH who eventually require surgery.
Abstracts

HoLEP in the octogenarian population

<table>
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<th>&lt;80 y</th>
<th>&gt;80 y</th>
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<tbody>
<tr>
<td>Median Hospital Stay</td>
<td>1</td>
<td>1</td>
<td></td>
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<tr>
<td>Preop Hb</td>
<td>143</td>
<td>129</td>
<td>&lt;0.001</td>
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<tr>
<td>Blood Loss</td>
<td>7.9%</td>
<td>12.1%</td>
<td>0.031</td>
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<tr>
<td>Anticoagulation</td>
<td>37.2%</td>
<td>65.7%</td>
<td>0.003</td>
</tr>
<tr>
<td>Prostate Volume</td>
<td>72.9cc</td>
<td>79.4cc</td>
<td>0.377</td>
</tr>
<tr>
<td>Cancer</td>
<td>11.6%</td>
<td>14.3%</td>
<td>0.604</td>
</tr>
<tr>
<td>Postop PSA</td>
<td>0.99 ng/ml</td>
<td>0.64 ng/ml</td>
<td>0.071</td>
</tr>
<tr>
<td>Readmission</td>
<td>9.3%</td>
<td>17.1%</td>
<td>0.188</td>
</tr>
<tr>
<td>Postop Qmax</td>
<td>21.78 ml/mn</td>
<td>13.74 ml/mn</td>
<td>0.005</td>
</tr>
</tbody>
</table>

- HoLEP is an attractive treatment in the octogenarian.
- Despite significant comorbidities and high prostatic volumes, results in this age group seem to be similar to younger patients.
Abstracts
Complications following HoLEP

- HoLEP causes an improvement in urinary symptoms and flow rates.
- HoLEP is a safe procedure with a low morbidity rates.
- The incidence of complications of HoLEP is greater during the learning of the technique and in older patients.
- The incidence of bladder neck contracture is higher in smaller prostates while the incidence of stress incontinence and ureteral orifice injury is greater in larger prostates.
Abstracts

A prospective-randomized comparison of a 1.9 μm and 2 μm thulium:yttrium-aluminium-garnet laser device for Thulium VapoEnucleation of the prostate (ThuVEP): Early results

- The 1.9 μm and the 2 μm Tm:YAG laser device are both safe and effective for the treatment of BPO with the ThuVEP procedure. Both laser devices give equivalent and satisfactory immediate micturition improvement with low perioperative morbidity.
PROPIIL’S study, early outcomes at 1 month:

Evolution of the penetration depth by ECUS after PVP by GreenLight XPS

Enhanced Contrast UltraSonography immediately after operating (MFI- and B-modes)

The use of ECUS showed an unexpected necrotic depth up to 16.5mm in the immediate post-operative ultrasound. This necrotic depth persisted at 1 month and was measured up to 13mm. At one month we measured a 26% decrease of the prostatic volume and a 23% of the necrotic depth. These results are to be considered to perform securely PVP without any rectal complication. The continuing follow up at 6 and 12 months will probably precise the necrotic depth evolution and the potential correlation with the occurrence of irritative voiding dysfunction.
Abstracts

The outcome of Holmium laser enucleation of the prostate in benign prostatic hyperplasia patients with detrusor underactivity

- HoLEP could be effective in BPH patients with DUA.
- Additional studies with adequate power and improved design are necessary to support the present findings.
Abstracts

Prospective evaluation of ambulatory 180W-XPS Greenlight laser therapy for BPH

- Ambulatory PVP is feasible with effective functional results and low complication rate comparable to that of traditional hospitalization.
- Ambulatory care yields high patient’s satisfaction.