What is new in urinary incontinence: A practical look on the guidelines

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Diagnosis and Treatment of Overactive Bladder in Adults: AUA/SUFU Guidelines (2014)

Adult Urodynamics (2012)

Guideline for the Surgical Management of Female Stress Urinary Incontinence: 2009 Update (rev. 2012)

OAB Guideline Updates

Patient Classification (compl vs. uncompl)
Diagnostic work-up
Treatment options
- *downside of treatments*
- *novel drugs or managements*

Horizon

Patient Classification

Complicated Patient:

any abnormal condition and any co-morbidity with an impact on bladder control:

- extremely severe symptoms
- young age patients
- mobility problems
- neurologic diseases
- uncontrolled diabetes
- pelvic pain
- fecal problems
- UTIs
- hematuria
- prior pelvic /vaginal surgery
- pelvic cancer or irridation
- POP above grade II
- failed anti-muscarinic therapy

Diagnosis (backbone is OAB is not a disease)

History, PE, urinanalysis

Additional tests: *Urine culture, PVR*, Bladder diary*

Uncomplicated Patient:

Complicated Patient:

Additional test: *Urinary US, PVR*, cystoscopy, UDS*

Treatment (backbone is OAB is not a disease)

No treatment is a choice….

Multiple trials might be required for success which is changable in time

First line: *behavioral, biofeedback,…*

Second line: *anti-muscarinics , Beta 3 adrenaoceptor agonists*

Third line: *onabotulinımtoxin A, PTNS, neuromodulation*

Lines can change in order acc to patient…..

First line should be offered to all patients….. (Std, Grade B)

Weight loss alone is effective in 50%

6 month minimum….

Second line may be given as a combination (Recomm, Grade C)

Second line:

Pharmacologic treatment (Std, Grade B)

Anti-muscarinics

Side –effects:

20-60% dry-mouth (oxy)

7-17% constipation (darif)

prefer ER over IR to decrease side effects (Std, Grade B)

TDS oxy less side effects (OTC for over 18) (Recomm, Grade C)

Second line:

Pharmacologic treatment (Std, Grade B)

Beta3 adrenoceptor agonist

Side –effects:

	placebo	Mirabegron (100mg)	Tolterodine (4 mg)
dry mouth	1.6%	2.2%	9.5%
constipation	1.4%	1.6%	2.0%
Hypertension	4.6%	3.4%	6.1%

Seems comparable to anti muscr sucecss but data is mostly on modest OAB patients…no data on frail patients…. (Grade B)

Second line:

Pharmacologic treatment (Clin Princp –Exp Opinion)

- *Drugs can be and should be dose modified, interchanged as required*
- *No literature on combination…*
- *Antimuscarinics should not be used in narrow-angle glaucoma, gastrointestinal motility problems*
- *Cessation of effective antimuscarinic should be the last resort in case of side effects*
- *Caution on antimuscarinics use with TCA, antiParkinson or antiAlzhemier or antinausea drugs*
- *Caution on frail patients (memory, cognitive or thermal regulation problems)*

Third line:

Intradetrusor Onabotulinumtoxin A (100IU) treatment (Std, Grade B)

- *FDA approved BoToxA 100 IU for refractory OAB*
- *Patients should be informed about high PVR and possible CIC for up to 9 months….*
- *High PVR and CIC 0 -43% and UTIs*
- *Neurological side effects*
- *Higher rate of side effects in diabetics and frail patients*
- *Median time of success 8-12 months*
- *Repeated injections…*

Third line:

PTNS (Recomm, Grade C)

moderately severe symptoms

multiple office visits

Sacral neuromodulation (Recomm, Grade C)

for severe refractory symptoms or

not candidates for pharmacotherapy and

for the ones willing to undergo surgery

Horizon

Validation of urgency

Biomarkers

- Nerve growth factors, PGs, Inflammatory factors like CRP or cytokines

Central NS

- Functional MRI

Afferent signaling

- Suburothelial sensor-transducers cells
- Urothelial and detrusor pace-maker cells

The place of Urodynamics

OAB:

- if an invasive treatment is planned (Option,Grade C)
- if following bladder outlet surgery (Exp Opinion)
- normal single UDS do not indicate bladder is normal (Clin Princp)

Neurogenic:

- PVR is a must with UDS (Std, Grade B)
- UDS is in the initial work up with relevant neurologic disorder (Recomm, Grade C)
- PFS is in the initial work up with relevant neurologic disorder or in high PVR or with persistent symptoms (Recomm, Grade C)
- EMG in relevant neurologic disorder or in high PVR or with symptoms (Recomm, Grade C)

The place of Urodynamics

Stress UI:

UDS may be done if surgery is planned (Option, Grade C)

if UDS is done urethral function should be assessed (Recomm, Grade C)

if surgery planned PVR should be done (Exp Opinion)

if no stress UI is observed urethral catheter should be removed (Recomm, Grade C)

if POP is present, reduction should precede stress testing (Option, Grade C)

The place of Urodynamics

LUTS:

- *UF may be used if emtying abnormality is anticipated (Recomm, Grade C)*
- *PVR may be performed (Clin Princp)*
- *UDS may be performed if DO or DU is anticipated before a surgery is planned (Expert Opinion)*
- *PFS in men should be done if UD obstruction is noted (Std, Grade B)*
- *PFS in women only if obstruction diagnosis is the reason for UDS (Option, Grade C)*

Surgical Management of Female Stress UI:

Index Patients:

- *SUI without POP*
- *SUI with POP*

Treatment modalities:

- *No needle suspension or anterior colporrhapy*

Efficacy is defined by:

- *the resolution and lack of reccurence in UI and prolapse*
- *adverse events*

Diagnostic Guideline in SUI

Standart:

- Focused history
- Focused PE
- SUI demonstration
- PVR
- Urinanalysis

Recommendation for history

- Severity
- Type of incontinence
- Impact of UI on lifestyle
- Patient expectations of treatment

Diagnostic Guideline in SUI

Recommendation for further testing indications:

- no definitive diagnosis
- OAB symptoms
- prior surgery
- neurogenic bladder signs
- negative stress test
- abnormal UA
- High PVR
- POP greater than Grade III
- dysfunctional voiding

Recommendation as further testing:

- Pad testing and bladder diary
- UDS
- Cystoscopy
- Imaging

Treatment Modalities in SUI

Retropubic Suspensions

- all types of suspensions
- open Burch
- laparoscopic Burch

Slings

- Autologous fascial sling
- Cadaveric sling
- Synthetic slings
  - bladder neck
  - midurethra
- Mesh repair

Injectable agents

Artificial urinary sphincters

Treatment Guidelines for the Index Patient with SUI:

- *Counseling about nonsurgical options and risks of surgery (Std)*
- *Urge incontinence with no SUI never undergo surgery (Std)*
- *Synthetic slings never in urethral erosion, injury, diverticulum or fistula (recomm)*
- *Intraop cystoscopy in all sling surgeries (Std)*
- *All surgical options are viable although not equivalent (Option)*
- *SUI surgery is possible in mixed incontinence (Option)*
- *SUI surgery is possible with the prolapse surgery but tensioning is done only after prolapse repair (Recomm)*

Cure/Dry Rates

	No Prolapse	With Prolapse	No Prolapse	With Prolapse
	12-23 m		24-48m	
Burch	81%	88%	76%	85%
Lap	69%	88%	74%	83%
Autologous fascia	79%	70%	79%	89%
Cadaveric fascia	74%	58%	80%	64%
Synthethic bladder neck	88%	94%	73%	75%
Synthetic midurethra	84%	85%	81%	87%
Injectables	48%		32%	

Urge Incontinence Rates (12-23 m)

	No Prolapse	With Prolapse	No Prolapse	With Prolapse
	De Novo		Pre-existing	
Burch	8%	14%	14%	48%
Lap	5%	11%	NA	NA
Autologous fascia	9%	13%	33%	47%
Cadaveric fascia	28%	6%	21%	NA
Synthethic bladder neck	12%	15%	17%	29%
Synthetic midurethra	6%	11%	44%	52%
Injectables	13%	NA	NA	NA

Retention rates (over 1 m)

	No Prolapse	With Prolapse
Burch	3%	1%
Lap	4%	2%
Autologous fascia	8%	5%
Cadaveric fascia	NA	1%
Synthethic bladder neck	9%	4%
Synthetic midurethra	3%	3%
Injectables	1%	NA

Complications:

Bladder injury *3-8% (highest in midurethral and prolapse)*

Ureteral injury *4% (upto 11% in lap)*

Mesh complications (FDA warning in 2008)

upto 30% erosion in early series

urethral and bladder erosion 2-4% (bladder neck sling)

UTI *4-16%*

Bowel injury *1%*

Vascular injury *(not documented but present in FDA MAUDE)*

Neurological injury *(seldom obturator nerve)*

Infectious complications

Death

Mortality rates

	Mortality rate
Overall	0.02-1.8%
SUI	0.01%
Urogynecologic	0.04%
<60 years	0.01%
>70 years	0.28%
Hysterectomy	0.11%
Prostatectomy	0.20%
Herniorraphy	0.41%