CONCOMITANT OAB AND POP: EVALUATION AND TREATMENT

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Disclosures

- Advisory Board and/or Speaker
  - Allergan
  - Medtronic
  - Astellas

- AUA Guidelines
  - Urodynamics, Member 2011-2014
  - Stress Incontinence, Chair, 2015-current
Urology at Virginia Mason
Introduction

- **Prevalence of OAB**
  - Estimated > 500 million worldwide by 2018\(^1\)
  - Increases with age

- **Prevalence of POP**
  - Overall: 2.9\%(\(^2\)
  - Increases with age
  - 11% have surgery by age 80\(^3\)

OAB and POP in general population

Risk factors for symptomatic OAB
- Symptoms of POP
- Prior surgery for POP or incontinence
- Age >75 years
- Overweight
- Postmenopausal status
- Smoking

Do OAB and POP coexist?
Can OAB exist without POP?
Can POP cause OAB?
Does repairing prolapse fix OAB?
Prevalence of OAB with POP
Can POP cause OAB?

OAB and prolapse

- Prevalence of OAB higher with POP<sup>1</sup>
- POP is a risk factor for OAB<sup>1</sup>
- OAB resolves following prolapse repair<sup>2</sup>
  - (but not in everybody)

Anatomy or function?

- OAB can be a primary condition
- OAB can be a secondary condition
- Or both…
The questions at hand...

- Can we determine if it a problem of anatomy or function?
  - Would that guide our decision?
- Does degree of bother play a role?
- Do we HAVE to treat stage II prolapse?
- Can we just treat the OAB?
  - Risk of retention in the face of POP
Case scenario

- 58 year-old woman
- Urgency incontinence requiring 2 pads/day
- No SUI
- Mild obstructive symptoms
  - Occasional hesitancy and intermittency
  - Moderate force of stream
  - Feels she empties
Pelvic examination

- Stage II anterior compartment prolapse
  - Aa +1, Ba +1
- Minimal posterior
  - Ap -3, Bp -2
- Minimal apical prolapse
  - TVL 11 cm, C -9, D -10
- Urethra mobile, no SUI
- Mild atrophic vaginitis
Urodynamics

- Filling cystometry
  - Bladder capacity: 400cc
  - Low amplitude detrusor overactivity
  - Sensation normal
- No occult SUI
Pressure flow analysis

- Multiphasic flow curve
- Maximum flow: 13 cc/sec
- $P_{det} \cdot Q_{max}$: 24 cm H20
- Minimal straining
- PVR: 110 cc
WHICH DO WE TREAT FIRST?
AUA/SUFU OAB Guidelines

1st line
- Behavioral/dietary modification
- Physical therapy

2nd line
- Antimuscarinics
- β-3 agonists

3rd line
- Neuromodulation
- Onabotulinumtoxin A

1st line therapy

- Behavioral therapy
  - Bladder training
  - Timed voiding
  - “Quick flicks”
- Dietary modification
- Physical therapy
- May be combined with pharmacotherapy

2nd line therapy

- Antimuscarinics
- \(\beta-3\) agonists

Limitations of drug use
- Side effects
- Duration of treatment
- Cost

What if meds don't work?
This is the crossroads...

1\textsuperscript{st} and 2\textsuperscript{nd} line therapies

3\textsuperscript{rd} line therapies

Fix prolapse
Considerations

- Degree of urgency
- Degree of prolapse
- Degree of bother from each
- Preoperative emptying
- Risks of interventions
3rd line therapy

- Neuromodulation
  - Sacral
  - Peripheral Tibial Nerve Stimulation (PTNS)
- OnabotulinumtoxinA injection

Prolapse reduction $\rightarrow$ OAB

- Multi-study summary
- Pessary reduced OAB symptoms
  - Up to 4 month follow up by questionnaire

Effect of POP on OAB resolution?

- n=235 women with POP and OAB
- Treated with tolterodine
- Conclusion: POP $\rightarrow$ causative effect on OAB

<table>
<thead>
<tr>
<th>POP stage</th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>184/184 (100%)</td>
<td>26/84 (14.15%)</td>
<td>7.09</td>
</tr>
<tr>
<td>≥ Stage II</td>
<td>51/51 (100%)</td>
<td>20/51 (39%)</td>
<td>2.55</td>
</tr>
</tbody>
</table>

Salvatore S et al., BJOG, 2007
Effect of POP repair on OAB

- n=175 with concomitant OAB and POP
  - 133 anterior repair; 24 posterior
- OAB decreased significantly in both groups
  - Anterior > posterior

Effect of POP repair on OAB

- Comprehensive review of literature
- Conclusion: In practically all studies, there was an improvement in OAB symptoms following POP surgery
- Implication: Link exists between OAB and POP

Patil and Duckett: Curr Opin Obs Gynecol 2010.
in OAB sx$s after POP repair

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Stage I and II</th>
<th>Stage III and IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgency</td>
<td>90%</td>
<td>85%</td>
</tr>
<tr>
<td>Frequency</td>
<td>89%</td>
<td>85%</td>
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</tbody>
</table>

Postulation

- Women with high grade POP may be at higher risk for persistent OAB
- Irreversible changes to detrusor muscle?

Flaws
- No PVR
- No information regarding obstruction
- No suggestion of how to treat persistent OAB

“BeDri” study

- Predictors of outcomes in OAB treatment
- Stop treatment
- Who would still be dry?
- Patients with greater anterior prolapse did better off med
- Conclusion: POP $\rightarrow$ urethral kinking $\rightarrow$ prevents urine from getting into urethra $\rightarrow$ decreases OAB

Richter HE et al., Int J Urogynecol Pelvic Floor Dysfn, 2009.
Literature variable

- Improvement of OAB seen in some
  - (but not all)
- Higher stage POP
  - Less likely to have resolution of OAB
- POP may either
  - *Cause* OAB due to outlet obstruction
  - *OR*
  - *Prevent* OAB by not allowing urine to enter proximal urethra
The problem in the literature

- Lack of uniformity in:
  - Definitions
  - Patient populations
  - Outcomes measures

What can we conclude?

- Minimum f/u 12 months
  - 6/7 papers: significant OAB improvement
  - 1/7 no improvement
- Still, OAB improved after POP surgery
  - There must be a causal relationship

Bother matters...

- OAB did not improve in all
- Unclear what predicted improvement
- Message: antimuscarinics may be considered in pts with OAB and POP *if she is bothered by OAB*
- *(Converse may be true as well)*

Theory on OAB and POP

- “Unkinking” of urethra may:
  - relieve obstruction
  - improve emptying
  - decrease OAB

- POP repair
  - Improved flow
  - Decreased Pdet at Qmax

Coates et al., BJU 1997.
3rd line therapies

- Peripheral Tibial Nerve Stimulation (PTNS)
  - Life-long therapy
  - Literature limited in refractory OAB
- OnabotulinumtoxinA injection
  - Already at risk for retention
- Sacral neuromodulation
  - For refractory OAB and incomplete emptying
  - But, for non-obstructive emptying dysfunction
  - Life-long maintenance of device
### Cumulative 3-year costs

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cost (US $)</th>
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<tbody>
<tr>
<td>PTNS</td>
<td>7,565</td>
</tr>
<tr>
<td>OnabotulinumtoxinA</td>
<td>11,748</td>
</tr>
<tr>
<td>Interstim®</td>
<td>24,681</td>
</tr>
<tr>
<td>Vaginal POP repair</td>
<td>6,353</td>
</tr>
</tbody>
</table>

Medicare, CMS
Implications of intervention

- OAB treatment
  - Adverse effects and cost of medications
  - Retention
  - Potential for resolution with surgery

- Prolapse repair
  - Risks of surgery
  - Persistence or exacerbation of OAB
Conclusion

On OAB in the face of prolapse...

- OAB first
  - If OAB bothers her, but prolapse does not

- Prolapse first
  - If both bother her
  - If she is obstructed

- If unsure, consider pessary trial
A practical approach

OAB and POP

- Treat OAB
- AUA/SUFU Guidelines

If OAB persists

- Repair prolapse

If OAB persists

- Repeat OAB Guidelines
THANK YOU!