The patient doesn't want anything "invasive": What can we offer?

Case driven workshop on intractable overactive bladder Workshop 11

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International Continence Society Annual Meeting
October 20, 2014 Rio de Janeiro, Brazil

Mrs R is a 67 year old female with a 3 year history of gradually increasing mixed UI. She has undergone urethral dilation twice and is now taking Flomax to increase flow. Urodynamics shows small bladder capacity (Vmax 200 ml), incomplete urethral relaxation. Fluoroscope shows mildly trabeculated bladder wall. Negative PVR. Medications have been reviewed by the physician and found to be uninvolved in her UI.

PMH - RA, osteoporosis, GERD, COPD, IBS, fibromyalgia with chronic wide spread pain, restless leg syndrome, constipation. Childhood sexual abuse. Patient also reports she had "urinary trouble" as a child.
Social history - Patient is retired but active, drives, and does her own housework. She participates in water exercise once per week.

Symptoms - patient reports UI several times per day of a small amount. Usually with urgency but occasionally with sneezing, bending, and lifting. Nocturia once per night. Patient notes UI upon standing from the toilet (post void UI) and has hesitancy and intermittency. She reports lower abdominal pain and a feeling of falling out at the perineum.

Tests and measures
ICIQ - 7/21
PFDI - 216.6/300
PFIQ - 123.6/300
Measured bladder dairy - F24 - 11, Vmax 250 ml, Vage - 100 ml, nocutria - 1 to 2, average voiding interval 1 to 3 hrs with urgency 4 to 5 times per day, fluid intake 1200 to 2800 ml mostly water.
Manual examination - external no evidence of PFM elevation, left adductor very tender to palpation, Strength of PFM 2/5, with 3 second hold and poor relaxation. Moderate tenderness with palpation of PFM on the left and mild anterior wall laxity.

Problem list

- Urinary dysfunction - MUI and obstructive symptoms possibly related to poor PFM function with weakness and poor relaxation
- Chronic pain syndrome with pain on palpation in the pelvis
- Constipation and poor bladder habits.

Patient was started on bowel empting routine, 1 1/2 hr voiding interval, 1500 ml water per day, and 3 second PFM exercises with equal focus on contraction and relaxation. Bladder training and PFM exercises were advanced with education and EMG training. Massage of the vaginal PFM, left adductor and left piriformis with home stretches was added.

One month re-evaluation - voiding with only 2 stops and feels empty after void. No post void dribbling, and 3 hr day voiding schedule. Urgency 2 times per week and no UI. Vaginal PFM strength 3/5 with 10 second hold and fairly good relaxation on EMG. Minimal tenderness on palpation of PFM.

Two month follow up - some mild POP symptoms, no UI, occasional urgency, encouragement given to continue self management.
ICIQ - 0 = 100% better
PFDI - 58.3/300 = 73% better
PFIQ - 37.9/300 = 69.2% better

Ideal Candidates for behavioral management of OAB

- Self-toileting with good balance and finger dexterity
- Mentally active without cognitive limitation
- Motivated to participate in treatments
- Intact neurological system
- No urinary tract infection
- Absence of sudden onset urgency

Lifestyle changes

- Weight loss
    - First line treatment for morbidly and moderately obese women (ICI 2013 grade A)
    - Surgical weight loss (Bump 1992) and conservative weight loss (Subak 2005) decrease UUI
- Fluid modifications – type, amount, timing
    - Decrease fluid intake by 25% (not lower than one liter per day) (ICI 2013 grade B, Cardozo 2011, AUA 2012 - grade B)
    - Decrease caffeine and diet soft drinks, has been associated with decreased OAB symptoms (ICI 2013 grade B, Cardozo 2011, AUA 2012 - grade B)

Bladder Training and PFM training

- Bladder training - overall cure from 12% to 73%, overall improvement rates 57% to 87%
- Bladder training and PFM training - effectively resolved UI in women, statically significant for better QOL (Wallace 2009 - Cochrane, Shamliyan 2008 - 4 RCTs, ICI 2013 grade B AUA 2012 - grade B)
- Bladder training and PFM training - more effective together than either treatment alone (Dougherty 2002, Elser 1999, Kafri 2013, ICI 2013 grade B)
- Bladder training and anticholinergics are better than either alone, (Alhasso 2009 - Cochrane, Burgio 2000, Berghmans 2000, AUA 2012 - grade C)

Other treatments for resistant OAB

- Constipation - resolution of constipation significantly improves urgency and frequency in older patients (Charach 2001)
- Electrical stimulation - vaginal or rectal electrical stimulation (10 to 12 Hz). Might be better than no treatment (ICI 2013 grade B, Berghamans 2007) theory neuromodulation
- Relaxation training and meditation
    - Theory - Relaxation training decreases sympathetic nervous system activation and thus decreases irritation of bladder leading to less OAB (level 5)
    - Anxiety scores higher in patient with dry OAB (Knight 2012)
    - Deep breathing and guided imagery 15 min audio tape 2x/day for 2 weeks, > 50% UUI (Abbasy 2009)
- Acidic foods and fluids
    - Theory - resistant OAB may have a component of neural hypersensitivity which may be aggravated by acidic foods and fluids. (level 5)
    - Consider decreasing acidic food intake and baking soda water
- Overactive and painful PFM (also called hypertonus PFM, PFM spasm, high-tone PFM)
    - Muscle is unable to relax and may contract during functions such as defecation or micturition resulting in obstructive voiding or defecation, dyspareunia, pelvic pain
    - Overactive PFM occurs in patients with OAB and contributes to dysfunction (Messelink 1999)
    - Overactive PFM can be related to (Lukban 2002)
        - Voiding dysfunction
        - Urgency
        - Frequency
        - Pelvic pain
    - Viscero-muscular reflex - irritated bladder signals increase irritation of the PFM and vice versa
    - Treated with - manual stretching, EMG relaxation of PFM
- Cognitive therapy
    - "Overactivity is due to a loss of balance between the lower urinary tract and the nervous system" (Mattiasson 2007)
    - Treatment of the nervous system can affect bladder sensations and OAB (level 5)
    - Education on normal bladder pattern helps restore normal pattern (Wyman 2009)
    - Bladder training reestablishes CNS control of micturition reflex through improved cortical suppression of sensory stimuli from an uninhibited bladder and improved cortical inhibition of an overactive detrussor muscle (Paraiso 2006)
    - The urgency challenge
        - Make a list of urgency triggers, in order of difficulty and provide graded exposure to desensitize
        - Sit in front of running water and suppress urge with gradually increasing volumes of urine
        - Do not void upon returning home or leaving the house with gradually increasing volumes of urine

If OAB is still resistant

- Recheck the accuracy of the records – cognitive, emotional, stress / time limitations
- Track adherence to bladder schedule and PFM exercises – keep continual diary
- Insensible UI - wetness can be sweat or vaginal discharge, consider the colored urine test.
- Shorten interval even more – if the patient does not have decrease UI with voiding intervals of 30 to 60 minutes then potential for success is low.
- Consider need for further testing and more invasive interventions

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