International Continence Society Physiotherapy Roundtable
Workshop 14 Painful intercourse and PFM dysfunction
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51 year old female with 15 year history of painful intercourse. She was seen in physical therapy (PT) briefly 3 years ago but stopped due to financial limitations. Patient now has an increased motivation to participate in PT.

History – endometriosis leading to a total abdominal hysterectomy in 1995, breast reduction and abdominoplasty 1990, acid reflux, no pregnancies
Social – patient has several jobs – teacher's aide, selling real estate, exercise instructor. She is very active with volley ball and exercise classes. Patient reports high home and work stress. She describes her relationship with her husband as stressful also.

Symptoms
Urinary urgency and frequency, UUI 2 or 3 times per week of a small to moderate amount ICIQ SF = 11/21
Pelvic Floor Disability Index (PFDI) = 165.58
Pelvic Floor Impact Questionnaire (PFIQ) = 33.29
Pain Disability Index (PDI) = 10
Constipation and pain with defecation
Left lower quadrant abdominal sharp pain about once per month, no other pattern reported
Dyspareunia with pain at the entrance to the vagina and deep inside. The patient has not tried intercourse in 6 months.
Marinoff dyspareunia scale 3/3
Initial impression – bladder dysfunction, overactive PFM

Bladder diary
0-2 small leaks per day
Voiding 14 to 15 x/day, 1-2 per night
Voiding interval varies from 30 minutes to 2 hours, average 1 hour
Voided volume varies from 2 ounces (60 ml) to 16 ounces (480 ml), average 6 ounces (180 ml)
Fluid intake 64 ounces (1920 ml), mostly water

PFM evaluation results Pro and con of overactive PFM tone – short PFM
External observation

- PFM contraction – no
- PFM relaxation – no
- Perineal body movement during cough – yes
- Perineal body movement during straining – yes
- Perineal descent – no
- External palpation – tender 3/10 in right posterior perineum
- Left adductor trigger point, significant lower abdominal trigger points

Introitus

- Positive Q tip test 7/10, 12:00 and 2:00
- Entrance - very small with some signs of vaginal atrophy

Internal vaginal examination

- Small vagina
- Pain on palpation all areas 7/10, with stiffness of tissue
- Manual muscle test 1/5 bilateral
- Brink score 3/12
- Poor relaxation

EMG – perianal electrodes
Resting baseline – 4.7 uV
5 second hold 10 x – 20.0 uV

How might her medical history or social situation impact therapy?
Abd adhesions, increased stress, decreased time for PT, husband relationship

Prognosis and factors affecting prognosis - influence of OAB on PFM, ?IC, hypersensitivity of nervous system

PT diagnosis – overactive PFM, Evidence of vulvodynia, constipation, and possible estrogen deficiency
Plan of care - 2 times per week for 12 to 16 weeks

- Neuromuscular reeducation with EMG – external perianal electrodes, contract relax for increased blood flow and relaxation training
- Vaginal dilator training with EMG input
- Massage and manual stretching of vaginal tissue, adductors and abdominals
- Therapeutic exercises to stretch adductors and elongate abdominals
- Patient education on bladder training, urge deferment, relaxation and self-management

Therapy goals, patient's goals –

- Patient goal – exercise 2-3 hrs without urination and decreased urgency
- Develop a relationship with the patient
- Patient will verbalize understanding of exercise physiology as it applies to her condition for long term management
- Patient will demonstrate ability to adhere to an independent home exercise program for continued long term improvements in PFM function and functional ability.
- Patient will demonstrate ability to perform PFM contraction with good quality 100 % accuracy (no overflow)
- Patient will demonstrate PFM contraction with 10 second endurance for increased continence
- Demonstrate understanding of proper posture and body mechanics.
- Able to tolerate penetration of # 5 or 6 dilator for intercourse with minimal pain
- Able to sustain 3 hour voiding interval for work, social activities, housework, doctor's visit.
- Nocturia normal for patient's age (0, 1, 2) for restorative sleep
- Patient will normalize fluid intake without increased UI
- Able to walk to the bathroom safely with 50% decreased leakage and minimal urgency.
- Social, exercise, work not limited by increased pain or UI.
- Discharge symptom index improved 50%

Issues which impact frequency of PT, progression of therapy, type of therapy chosen?
Time to come to clinic, previous poor follow through with PT
Psy impact – progress slow but persist

Are there other medical professionals that might be helpful in this patient's care? Psy, couples counseling

At the third session she inserted the #1 dilator slowly with EMG 5 uV to 3uV and a feeling of "agitation". She also inserted the #2 dilator ½ distance with 5/10 pain and EMG 7uV to 5uV. She was able to keep it in for 5 minutes and reported no increased pain after treatment.

After 6 sessions her bladder diary showed voiding 10 ounces (300 ml) every 2 hours. Patient was encouraged to decrease fluids. Still working on dilator #3. A prescription for 2% vaginal lidocaine cream was requested.

At one month (9 sessions) patient was easily able to insert dilator #3 and was working on #4 and #5. Patient was using dilators effectively at home and PT frequency was decreased to once per week.

After 2 months (13 sessions) patient was able to insert #7 dilator fully without pain but some "irritation". EMG 10uV to 3uV. Not able to move the dilator. Reevaluation shows negative Q tip test but still very painful at the posterior fourchette. 3/5 manual muscle test 7 second hold, with 5/10 pain only on left. Intercourse was tried twice with only slight pain the second time. Patient will continue independently for one month followed by a PT reevaluation.
EMG at rest 3.16uV, standard deviation 0.54

She saw a urogynecologist who started her on vaginal estrogen and encouraged continued PT. Patient reports intercourse with 0/10 to 3/10 pain. She also has some urgency after intercourse and still has some UUI. She still must use the lidocaine and vaginal dilator before intercourse.

9 weeks later (session 15) patient notes no significant change in pain and it was determined she was not working hard enough with her home treatment.
EMG showed good relaxation – general relaxation and self vaginal massage reviewed.
Outcomes measures were repeated at session 16
PFDI – 26% better
PFIQ – 28% worse
PDI – 10% better
ICIQ – 63% better
Marinoff dyspareunia scale 1/3
Patient continues to have bladder dysfunction and PFM tension. Brink score 10/12, posterior fourcette pain 5/10, right PFM pain 4/10. EMG with elevated resting tone. Stress at home and work still high. Patient feels she can continue on her own and will check back by phone in 2 weeks.

A telephone call with the patient 6 ½ months after staring therapy - She notes no pain with intercourse last night, she feels she can continue on her own. Patient is concerned about financial impact and is having very little change with PT.

PT interventions

- Education: location of structures, visual and palpation outside
- EMG down training for PFM and generalized relaxation
- Lower extremity stretching especially in intercourse positions
- Dilator use
- Vaginal massage to PFM as able
- Support groups, resources, individual or partner counseling, Development of desire and arousal

Brief highlights from the literature

McCullagh WMH, Vaginal dilators. April 23, 1949 BMJ, pg 723.

- Describes new metal vaginal dilator with small groove for urethra and handles.
- References previously used glass dilators and some of their troubles.

Fuchs K. Therapy of vaginismus by hypnotic desensitization. Am J Obstet Gynecol 1980;137(1):1-7.

- Basis is avoidance of anxiety producing situation
- Start – insertion of patient's finger – end intercourse in the female superior position
- 71 women (no control) 18 = hypnosis, 54 = dilators
- "good results" 88% in hypnosis group, 98% of dilator group
- Follow up 2 to 5 years with no relapse reported

Idama TO, Pring DW. Vaginal dilator therapy-an outpatient gynecological option in the management of dyspareunia. J Obstet Gynecol 2000;20(3):303-305.

- 18 women received instruction with glass dilators
- 77.8% "successful"
- 16.7% (3 women) required additional treatment – psychotherapy or surgery

Murina F, Bernorio R, Palmiotto R. The use of Amielle vaginal trainers as adjuvant in the treatment of vestibulodynia: an observational multicentric study. Medscape J Med 2008;10(1):23.

- Prevailing theory of vestibulodynia – neuropathic disorder involving abnormal pain perception and PFM dysfunction
- No single treatment is right for all and it may take many months to determine correct treatment
- 15 patients used vaginal dilators by specific protocol (dilators and instructions available at http://www.vaginismus.com)
- Marinoff dyspareunia scale – initial 2.2, end 1.1 (0.001)
- FSFI – initial 16.3, end 25.3 (0.001) (26.5 is the cut off for differentiating sexual dysfunction)

McGuire H, Hawton KKE. Interventions for vaginismus. Cochrane Database of systematic reviews 2009.

- Worldwide prevalence rates 5% to 17% (Irish women 42%)
- Treatment approaches
    - Systemic desensitization – Imagined / hypnosis and / or graded dilators
    - Sex therapy – couple and individual
    - Cognitive therapy
    - Education
    - Relaxation therapy
    - Flooding – subjects watches in mirror as therapist then patient inserts finger into vagina
    - Pharmacotherapy – benzodiazepines
    - Botox injection
- Successful outcome = ability to complete sexual intercourse and have a speculum examination
- 3 studies "eligible"
    - One with no published data
    - One not randomized – success 89.7% of desensitization group and 100% of hypnosis group
    - One compared doctor inserted dilator and verbal instruction only
        - No statistical difference
        - Therapy ever 2 weeks
        - Home program – 10 to 15 minutes of dilator use 5 times per week
        - No intercourse till end of program
- Conclusion – not enough data