Prolapse, pain, and pelvic floor muscle dysfunction

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Is prolapse painful? When this question comes up with patients or trainees, my answer is usually "no." Pelvic organ prolapse (POP) is rarely a painful condition. Uncomfortable, annoying, and frustrating? Yes. It certainly limits quality of life, but it is not usually painful. Although some pain-related symptoms (specifically pelvic pressure and low backache) are recognized as symptoms of POP,[1] POP clinical practice and research has more often focused on vaginal bulge symptoms, likely because seeing or feeling a vaginal bulge is the symptom that best predicts POP and because POP treatment outcomes that include the absence of vaginal bulge symptoms correlate best with patients' assessment of success.[2–5]

Two articles in this month's Journal suggest that I reconsider my response about prolapse and pain or at least provide a more thoughtful answer in the future to this question! In a secondary analysis from the Pelvic Floor Disorders Network's Operations and Pelvic Muscle Training in the Management of Apical Support Loss (OPTIMAL) trial, Barber et al[6] assessed pain and related outcomes after transvaginal native tissue prolapse repair. Meister et al[7] reported on pelvic floor myofascial pain in a clinic-based study of patients seeking care for pelvic floor disorder symptoms. Results from these very different studies suggest that pain, functional limitations related to pain, and the presence of painful pelvic floor muscles (PFMs) may play an important role in at least some patients' POP experience and treatment results.

First, the OPTIMAL trial randomly assigned women with Pelvic Organ Prolapse Quantification System stage II or greater POP and concurrent stress urinary incontinence first to perioperative behavioral therapy with pelvic muscle training vs usual care and then to uterosacral vs sacrospinous ligament suspension apical surgical repair with midurethral mesh sling.[6] Among data collected, the investigators included validated patient-reported instruments to assess pain and the ability to perform functional activities and generic health-related quality of life.

OPTIMAL participants reported pain scores (pain at rest, with normal and with strenuous activities, and "worst" pain) that were mild at baseline. These increased (as expected) in the early postoperative period; however, by 3 months, they were significantly below baseline levels (all $P<.001$ in adjusted models), which suggests that the baseline pain present was related to POP and was relieved with POP surgery.[6] Furthermore, pain and general physical functioning (assessed in relevant generic health-related quality of life subscale scores) all significantly improved by 6 months after surgery compared with baseline, and these clinically meaningful improvements were maintained through 2 years. Results were similar in both surgical groups (except for greater buttock pain noted in the sacrospinous ligament suspension group in the early postoperative period), and only minor differences were seen based on randomization to pelvic muscle training vs usual care.

The detailed postoperative investigation of pain and the long-term outcomes reported by Barber et al[6] in this study are an important contribution to the literature; the rigorous data collection methods and multicenter randomized trial design are strengths. Most pelvic surgeons and POP researchers are not familiar with the pain and functional activity patient-reported outcomes that were used, so the additional use in other gynecologic surgical populations would be helpful for the interpretation of these findings. At this point, it seems reasonable to counsel patients that, on average, pain improves after vaginal native tissue POP and midurethral sling surgery and that improvements in pain and physical functioning should last up to 2 years.

Previous studies have identified PFM pain in patients with pelvic floor symptoms (pressure, heaviness, voiding, and defecatory symptoms),[8,9] but little evidence is available to better explain this association or to guide care for these women. Development of a standardized, reproducible examination technique of the obturator internus and levator ani muscles to assess for PFM dysfunction and the routine use of this examination in their urogynecology practice provided Meister et al[7,10] the opportunity to study the prevalence of pelvic floor myofascial pain and to determine whether the severity of pelvic floor myofascial pain that was assessed on examination correlated with the degree of pelvic floor symptom bother reported by patients on the Pelvic Floor Distress Inventory.

In their population of 833 patients, 58% of the patients reported pain; 52% of the patients reported dyspareunia; 92% of the patients reported urinary symptoms, and 30% of

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the patients reported vaginal bulge symptoms.[7] Surprisingly, the authors identified pelvic floor myofascial pain (pain >0 on 0−10 scale on palpation of at least 1 of 4 locations) in 85% of patients, with 50% of them reporting pain in the severe range (7−10/10). Even women who did not report pain or dyspareunia symptoms had average pain scores in the moderate to severe (6−7/10) range.[7] After adjustment for menopausal status, pelvic floor myofascial pain correlated with some POP symptoms that included pressure, heaviness, and a sensation of incomplete bladder emptying but did not correlate with seeing or feeling a vaginal bulge or with anatomic prolapse assessments or Pelvic Organ Prolapse Quantification System stage. Myofascial pain scores also correlated with difficulty emptying the bladder (but not other urinary symptoms) and a sensation of incomplete rectal emptying, anal incontinence to flatus, and pain with defecation.[7]

One previous study found PFM tenderness in 24% of patients (of >5000) who were seen in a university-based urogynecology clinic and in 9% of patients (of 946) in a private clinic,[8] which are much lower prevalence rates than reported by Meister et al[7] and might reflect differences in clinic patient populations, examination techniques, or outcome definitions. Women with PFM tenderness reported 50% more pelvic floor symptom bother compared with women without PFM tenderness.[8] Meister et al[7] provide a more detailed assessment of specific symptoms and their relationship to PFM pain than previously studied and found that painful symptoms (eg, pressure) and obstructive urinary and defecatory symptoms were associated with PFM pain scores, although vaginal bulge and incontinence symptoms were not.

Research in PFM dysfunction has been hampered by the inconsistent use of terminology and diagnostic methods. Meister et al[7] identified their primary outcome "pelvic floor myofascial pain" as pain reported with muscle palpation, but it is unclear if this is a symptom, sign, or clinical diagnosis. A recent international terminology report for female pelvic floor dysfunction defined "pelvic floor myofascial pain" as the symptom of pain caused by trigger points in the PFMs and fascia.[9] However, the presence or absence of trigger points was not identified in the standardized PFM examination that was used in this study. Other researchers have used the terms "levator myalgia" and "high-tone pelvic floor dysfunction" to indicate PFM dysfunction that is associated with pain and high muscle tonicity.[8,11] Because many of the patients with pelvic floor myofascial pain in this study did not complain of pain, should they be diagnosed as having 1 of these clinical conditions? Although this terminology continues to be confusing, the use of the standardized PFM examination that was developed and tested by Meister et al[10] is an important step in improving the rigor of research on women with PFM dysfunction.

If PFM pain is common in patients with a variety of pelvic floor symptoms, could this represent the pain that is associated with POP that was reported by the OPTIMAL participants? It seems possible that PFM dysfunction could contribute to pain in some POP patients, but it is less likely that it would play a major role, because pelvic floor myofascial pain scores in the clinic-based patients did not correlate with vaginal bulge symptoms or anatomic POP measures and because only 23% of this study population (with high rates of pelvic floor pain) had stage II or greater prolapse.[7] Additional research is needed to better understand painful symptoms that are related to POP. Do other POP patients report pain symptoms such as seen in the OPTIMAL trial, and is pain similarly improved after other surgical (and nonsurgical) POP treatments? Such studies should include a careful assessment for PFM dysfunction before and after treatment as 1 potential source of pain that is associated with prolapse. ■

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