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PREVALENCE OF FUNCTIONAL DISORDERS OF THE BOWEL, RECTUM, AND ANUS IN A TERTIARY UROGYNECOLOGY POPULATION

Hypothesis / aims of study

Straining is frequently mentioned as a possible etiologic factor in pelvic floor disorders and pelvic denervation. Constipation is a disease that results in frequent straining often seen in patients with pelvic floor disorders. The overall prevalence of constipation in the U.S. population is 14.7%, with 4.6% being functional constipation, 4.6% outlet subtype, 2.1% IBS-constipation subtype, and 3.4% IBS-outlet[1]. The prevalence and clinical subtypes of constipation and other functional bowel, rectal and anal disorders have not been well characterized in women with urinary incontinence (UI) and pelvic organ prolapse (POP). The specific aims of this study were: (1) to determine the prevalence of functional bowel disorders as defined by the Rome II criteria in a tertiary urogynecology clinic, (2) to determine the prevalence of subtypes of constipation, and (3) to determine whether demographic, clinical, or physical exam factors are associated with different types functional bowel, anal, and rectal disorders in patients with prolapse and incontinence.

Study design, materials and methods

This was a cross-sectional study design. One hundred and fifty consecutive female subjects presenting to a tertiary referral, urogynecology clinic were identified. Demographic, general medical, and physical exam information were collected. The prevalence of functional bowel disorders and functional disorders of the anus and rectum as defined by the Rome II criteria[2] were collected. These disorders were determined by the subject's responses to the Rome II Modular questionnaire, a symptom-based questionnaire developed by clinical consensus. Functional bowel disorders included: (1) IBS and its subtypes: diarrhea predominant, constipation predominant, and IBS-Outlet type, (2) functional constipation, and (3) functional diarrhea. Functional disorders of the anus and rectum included: (1) functional fecal incontinence and its subtypes of soiling and gross incontinence, and (2) functional anorectal pain including levator ani syndrome, proctalgia fugax, and pelvic floor dyssynergia. Overall, constipation was grouped together with subjects who met criteria for the mutually exclusive subgroups: (1) functional constipation, (2) functional constipation with outlet delay or obstruction (3) constipation predominant IBS, and (4) IBS-Outlet type. Pelvic organ prolapse was defined using the POPQ staging system. Subjects also underwent a standardized sacral neurologic exam including sacral reflexes, perineal sensation, levator ani contraction strength, anal resting tone and anal squeeze strength. Statistical analysis was performed using JMP 5.1 (SAS Corp. Cary, NC).

Results

The median age of this population was 60 years (range = 18-90) and 88% percent were Caucasian. Median BMI = 27.7kg/m^2 (range 17.7-42.5), median parity = 2 (range = 0-7). Overall, 52% of patients presented with a primary complaint of UI, 15% had Stage 3 or 4 POP, and 17% had both UI and stage 3 or 4 POP. Prior surgery for prolapse was reported in 19% of subjects. Table 1 summarizes the overall prevalence of functional bowel and anorectal disorders in this population. In all, 32% of subjects had constipation, 22% had fecal incontinence and 30% had a functional anorectal pain syndrome. Laxatives were used in 13% of subjects.

After controlling for age, diabetes, constipating medications, and previous pelvic surgery, there was no difference in the prevalence of constipation or any of it's subtypes between patients with UI and those with stage 3 or 4 POP. Similarly, there was no difference in any of the functional anorectal pain syndromes between these two groups. Fecal incontinence was independently associated with UI (adj OR 4.4; 95% CI 1.5-16.9), but not advanced POP. Neither overall stage of POP nor stage of posterior vaginal prolapse were significantly associated with constipation or its subtypes in our population, although functional diarrhea and proctalgia fugax were both associated with increasing stage of POP ($p<.04$ for each).

Table 1

Prevalence of Functional Bowel Disorders in a Urogynecology Population

Functional Disorders as defined by ROME II	Prevalence	95% CI
Constipation*	**32.0%**	(0.25-0.40)
Functional Constipation	3.3%	(0.01-0.08)
Outlet type	21.3%	(0.16-0.29)
Irritable Bowel Syndrome (IBS)		
Diarrhea predominant	5.3%	(0.02-0.10)
Constipation predominant	4.0%	(0.02-0.08)
IBS-Outlet type	3.3%	(0.01-0.08)
Functional Diarrhea	**6.7%**	(0.04-0.12)
Functional Fecal Incontinence	**22.0%**	(0.16-0.29)
Soiling	13.3%	(0.09-0.20)
Gross	8.7%	(0.05-0.14)
Functional Anorectal Pain		
Levator Ani Syndrome	8.0%	(0.04-0.13)
Proctalgia Fugax	19.3%	(0.14-0.26)
Pelvic Floor Dyssynergia	2.7%	(0.01-0.07)

N = 150; Items bolded are higher than published population data
*Overall constipation= Functional + Outlet + Constipation predominant IBS+IBS-Outlet

Increasing perineal body measurement was associated with increasing prevalence of IBS-constipation, IBS-outlet, outlet type constipation ($p < .05$ for each), but not functional constipation. No other POPQ measurement demonstrated an association with any of the functional bowel disorders. Prior hysterectomy and increasing levator ani strength were both significantly associated with presence of proctalgia fugax ($p < .03$ for each). Decreasing anal sphincter squeeze strength was associated with the presence of fecal incontinence ($p < .04$).

Interpretation of results

The overall prevalence of constipation and fecal incontinence, as defined by the Rome II criteria, is substantially higher in subjects with UI and POP than reported in the general population. The majority of constipation in our patient group is attributed to outlet type. Although constipation seems to be more prevalent and is often thought to be associated predominantly with POP, we found no difference in overall constipation, or any of its subtypes, between patients with advance stage POP and UI. Constipation may therefore contribute to UI and POP as opposed to being a result of them. A comparison using normal age matched controls is warranted. Interestingly, two disorders that are infrequently mentioned with vaginal prolapse, functional diarrhea and proctalgia fugax, were associated with increasing stage of POP. This deserves further investigation. Perineal body measurement was associated with constipation, particularly the outlet types.

Concluding message

Functional bowel and anorectal disorders, especially constipation, are common in referral urogynecology subjects. We found similar rates of constipation and its subtypes between subjects with urinary incontinence and pelvic organ prolapse and among all stages of pelvic organ prolapse.

References

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