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ANORECTAL AND BOWEL DYSFUNCTION ASSOCIATED WITH PELVIC ORGAN PROLAPSE (POP) IN EGYPTIAN WOMEN: PREVALENCE AND CORRELATION WITH MRI FINDINGS

Hypothesis / aims of study
We hypothesize that defecatory symptoms are correlated with the degree of associated POP. The aim of this study is to estimate the prevalence of anorectal and bowel symptoms in women with POP and to determine the relationship between these symptoms and the type and degree of prolapse as detected by physical examination (PE) and MRI.

Study design, materials and methods
Women with POP, in the period from January 2006 to February 2007, were evaluated by Rome III constipation module questionnaire. Before starting the study, linguistic validation of the module was done aiming to produce a translated version which is conceptually equivalent to the original version, clear and easy to understand in the lay Egyptian language. This consisted of 3 steps: two forward translations (including the production of a reconciliation version), backward translation, and patient testing. The following criteria for constipation were evaluated: the experience/ frequency of : a) straining during defecation, (b) sensation of anal blockage, (c) sensation of incomplete evacuation, (d) manual maneuvers to facilitate defecation, (e) hard stool and (f) less than 3 bowel movement /week. For fecal incontinence assessment, a structured questionnaire about the type of incontinent material (gas, liquid, or solid stool) and the frequency as well as the use of pads were included. Patients were also asked about other symptoms including visualization of vaginal bulge, dyspareunia, vaginal heaviness, and pain (pelvic and vaginal). All patients were subjected to history taking and physical exam including pelvic and focused neurological examination. Patients with neurological disorder were excluded. POP was graded clinically by the Halfway system. All patients then underwent pelvic MRI. *Rectocele* was defined as rectal bulge anterior to a line drawn along the anterior margin of the axis of the anterior anal canal. Rectocele was further graded into: small rectocele if the anterior bulge is < 2cm, moderate if 2-4cm and large if >4cm anterior bulge. *Anorectal junction (ARJ) descent* is another posterior compartment abnormality and defined as descent of the ARJ below the pubo-coccygeal line (PCL) more than >3 cm. 3. *Enterocele*: defined as bowel descent below PCL: small enterocele if < 3 cm descent, moderate if 3-6 cm descent, and large if > 6 cm descent. All these MRI definitions were according to Kelvin et al. Correlation coefficients were calculated with values < 0.5 were considered to be weakly correlated; while values > 0.5 were considered to be strongly correlated. P value of ≤ 0.05 was considered statistically significant.

Results
During the specified period, 69 patients were included with a mean age of 43.6 years (range; 26 - 65). Prevalence of bowel and anorectal symptoms is shown in table 1.By PE 62 subjects (90%) have rectocele; grade I in 18 subjects (26%), grade II in 33 (47.8%), grade III in 11 (16%), grade VI in 3 (4.3%). Cystocele was found in 69 patients (100%); 15 subjects (22%) grade I, 27 (39%) grade II, 16 (23%) grade III and 11 (16%) grade IV. Enterocele was found in 12 cases (17%): grade I in 5 subjects (7%), grade II in 3 (4%), grade III in 4 (6%). Uterine descent was found in 42 cases (60%), while vaginal vault prolapse was found in 5 cases (7%). Constipation, defined by the Rome III criteria, was found in 52% of rectocele cases, while fecal incontinence was found only in 11% of cases. There was strong positive correlation between rectocele (diagnosed by PE and MRI) and severity of constipation; with the strongest correlation for straining followed by the incomplete bowel evacuation. There were no statistically significant correlations between symptoms and enterocele or other compartment defects i.e. cystocele, uterine descent, and vaginal vault prolapse. MRI depicted enterocele in 4 patients that was not detected by PE. ARJ descent was found in 26 patients (37%). By MRI, multi-compartment organ prolapse was found in 31 patients (45%). Concomitant pathologies were detected including urethral diverticulum in one patient, ovarian cyst in 3 patients and uretro-hydronephrosis in two patients.

Interpretation of results
Bowel and anorectal dysfunctions are common in POP. Symptoms are correlated with compartment-specific defect. A correlation between constipation and rectocele was found in this study. There is weak correlation between constipation and anorectal descent by MRI. Worsening posterior compartment prolapse is not associated with worsening fecal incontinence (gas and fecal).

Concluding message
Constipation is a symptom that is strongly correlated with Rectocele. Dynamic pelvic MRI is helpful in detecting concomitant pathology and to differentiate enterocele from high rectocele, which maybe difficult to differentiate clinically, especially before surgical repair.

Symptoms	Prevalence (%)	P/E rectocele r (p value)	MRI rectocele r (p value)	MRI ARJ descent r (p value)
1. Constipation	52	**0.533 (.04)**	**0.550 (.04)**	**325 (0.05)**
– Straining	50	**0.232 (0.05)**	**.334 (.05)**	**0.142 (0.05)**

– Anal blockage	9	.432(.12)	.212(.38)	.218(.09)
– Incomplete evacuation	12.5	**0.321 (0.05)**	**0.482 (0.05)**	**0.458 (0.05)**
– manual maneuvers	25	.238(.09)	**0.115 (0.04)**	.438(.61)
– Hard stool	11	.297(.12)	.13(.87)	.023(.49)
– <3 bowel movement/w	18	.034(.78)	-.219(.25)	.027(.21)
2. Fecal incontinence	11	.152 (.41)	.109(.31)	**.**234(.09)

Table 1: Prevalence of defecatory symptoms and correlation of these symptoms with findings on physical examination, and MRI. Significant correlations are shown in bold underlined font. .

References

1. Kelvin FM, Maglinte DD, Hale DS and Benson JT: Female pelvic organ prolapse: a comparison of triphasic dynamic MR imaging and triphasic fluoroscopic cystocolpoproctography. AJR Am J Roentgenol. 174: 81-8, 2000.

FUNDING: No

HUMAN SUBJECTS: This study was approved by the Ethical Committee, Faculty of Medicine, Assiut University and followed the Declaration of Helsinki Informed consent was obtained from the patients.