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POSTERIOR RECTOCELE : A STUDY AND EVALUATION

By
Yehia Ahmed Ali*, Ali A. Shafik**
Department of Radiology*, Department of Surgery**, Faculty of Medicine,
Cairo University, Cairo, Egypt.

Objective: This work was undertaken to study and evaluate the posterior rectocele.Study Design : A total of 70 patients were submitted to defecography due to chronic constipation.
Results : Nine patients were found to have posterior rectocele. In all patients levator ani dysfunction was present. Five patients had combined anterior and posterior rectocele and, all were females. Four patients had only posterior rectocele and all were males.
Conclusion : Posterior rectocele is an uncommon rectal wall disorder. Levater ani dysfunction plays a major role in posterior rectocele existence.

Key words : posterior rectocele , levator ani dysfunction , constipation , anorectal junction

INTRODUCTION

Constipation is common proctologic problem. It has variable causes, which includes obstructive constipation, rectal inertia, and neurological rectum[1-2]. Patients with outlet obstruction usually complains of excessive straining at defecation, manual disimpaction of stool, vaginal maneuver using fingers for defecation and has a feeling of incomplete evacuation. In a recent study, the prevalence of functional constipation was or outlet obstruction found to be 19% and that of colonic delay obstruction to be 11%[(2)]. The normal rectal position is maintained by the interrelated action of connective tissue, (Endopelvic fascia and perinel a membrane) and striated muscle (Levator ani). Furthermore, connective tissue support different organs at different levels. The pelvic organ, support system has an anterior compartment containing the urethra and bladder, and a posterior compartment containing the anus and rectum. The vagina, uterus and endopelvic fascia that attach them to pelvic walls separate these two compartments. The posterior compartment support depends on, the interaction between the levator ani muscle and connective tissue. The relationship among the perineal membrane, lavator ani and perineal body help to define the nature of distal defects[(5)]. Excessive straining at defecation may lead to rectocele formation. The rectocele could be diagnosed by defecogaphy during the straining phase [(6)]. It occurs in outlet obstruction syndrome being located in the anterior rectal wall and its size depends on the duration and the degree of straining [(7)].

Although, the anterior rectocele is the more common type, posterior rectocele could occur [(8)].

During our study of rectocele we observed 9 cases of posterior rectocele out of 70 cases undergone defecography due to chronic constipation. As the posterior rectocele was infrequently studied in the literature, the current communication investigates this point.

MATERIALS AND METHODS

The study comprised 70 patients, 40 females and 30 males with a mean age of 48.5 (ranging from 32 to 65 years). All of them had chronic constipation of 2 to 7 years (mean of 4 years). the constipation was of the obstructive type due to levetor dysfunction, puborectalis paradoxical syndrome, or rectal inertia.

Defecography was performed in all the patients using the method described by Mahieu et al [(9,10)].

After sufficient contrast filling of the rectum, the patient was asked to sit on a special commode and x-ray films was over taken at rest, on squeeze and upon rectal emptying, in lateral views.

RESULTS

Among 70 patient who underwent defecography, nine patients were found to have posterior rectocele. The age of this nine patients ranged from 20-70 years old with a (mean of 45 years), five were females and four were males, and all patients complained of obstructive constipation, leveter ani descend was observed on defecography.

Defecography findings :

Five of nine defecographic studies showed combined anterior and posterior rectocele. (Fig. 1 to 3), where four cases showed only posterior rectocele (Fig. 4-5).

The size of posterior rectocele 0.2 to 1.5 inch with a mean of 0.7 inch (Table 1). The anorectal angle measured at rest, on squeezing and during defecation is summarized in (Table 2). The level of anorectal junction on defecation was of mean descend 6.1.

Table (1) : ***Defecography findings .***

Subject	*Age*	*Sex*	*Anterior rectocele*	*Level of posterior rectocele*	*Size of posterior rectocele*	*Levator ani descend*
1	45	Female	Present	Below coccyx	0.7 inch	Present
2	28	Female	Present	Below coccyx	0.2 inch	Present
3	50	Female	Present	Below coccyx	1 inch	Present
4	27	Female	Present	Below coccyx	0.8 inch	Present
5	20	Female	Present	Below coccyx	0.7 inch	Present
6	31	Male	No	Below coccyx	1.5 inch	Present
7	70	Male	No	Below coccyx	1 inch	Present
8	32	Male	No	Below coccyx	0.5 inch	Present
9	42	Male	No	Below coccyx	0.8 inch	Present

Fig. (1) : A 45 years female defecography showing combined anterior rectocele (arrows).

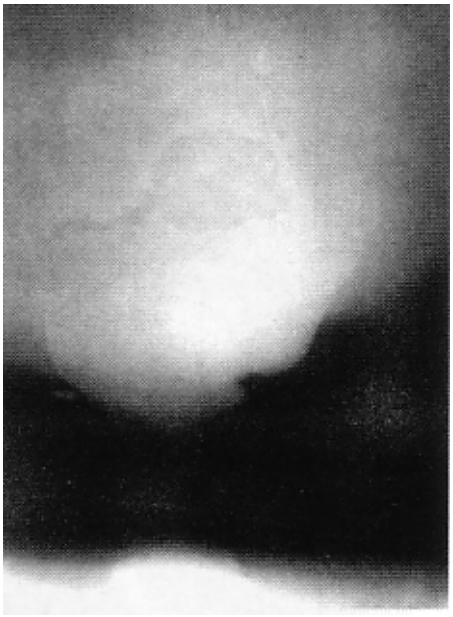

Fig. (2) : A 28 years female defecography showing combined anterior rectocele (arrows).

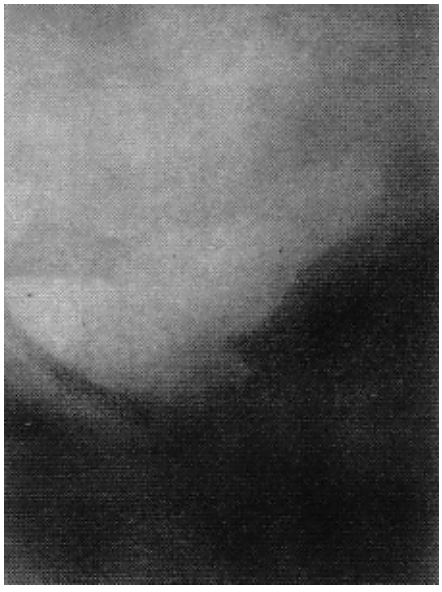

Fig. (3): A 50 years female defecography showing combined anterior rectocele (arrows).

Fig. (4) :A 31 years male defecography showing posterior rectocele (arrow).

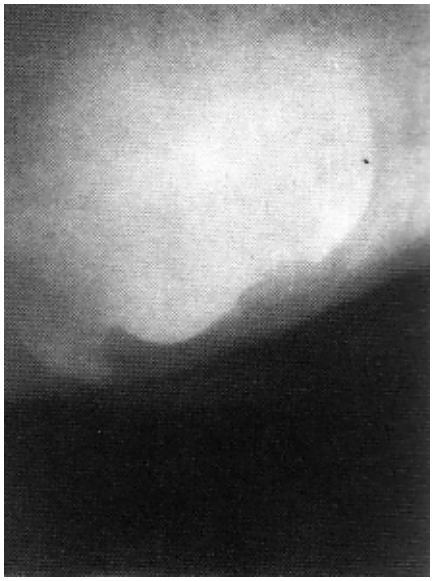

Fig. (5) :A 70 years male defecography showing posterior rectocele (arrow).

Table (2) : *Anorectal angle. ARA. anorectal angle, ARJ. anocreetal junction level in relation to coccyx.*

Subject	At rest	At squeezing	During defecation	
			ARA	ARJ
1	120°	70°	120°	6
2	85°	60°	80°	2
3	85°	90°	110°	8.5
4	70°	100°	125°	7.5
5	110°	120°	130°	+ 6
6	100°	50°	130°	+ 7
7	60°	75°	100°	4
8	95°	70°	125°	7
9	80°	60°	125°	7

DISCUSSION

The rectocele defect, which is commonly seen in multiparous women, is an outpocketing of the anterior rectal and posterior vaginal wall into the lumen of the vagina. Mild rectocele may be asymptomatic, whereas large rectoceles may cause symptoms. Constipation is commonly reported to coexist, being found in 75% to 100% of patients with rectoceles [7].

Through out the serial observation of cases, constipation was the common symptom. The present study showed that combined anterior and posterior rectocele were detected in females more than males, while in males the posterior rectocele was the commonest. This could be related to the anatomical differences between the male and female. The prostate provides a good support to the anterior rectal wall in male more than the vagina in female [11], Mean while, in the posterior rectocele, the anatomical structure is almost the same in the males and females [12].

The cause of posterior rectocele in not exactly known. It may be related to widening of the posterior compartment of the levator hiatus due to levator muscle dysfunction [13], congenital coccegeal defect, or short anal canal. These factors may contribute to lack of support to the posterior rectal wall. Barium enema studies showed no rectal dilatation in association with rectocele in spite of constipation this could be due to the reservoir function of pelvic colon which absorbs the back flow in case of outlet obstruction.

In this study, combined anterior and posterior rectocele, occurred at different levels, and had variable sizes. The anterior rectocele was usually observed at a higher level of $S_{4\text{-}5}$ than the posterior type. The posterior rectocele was usually situated below coccyx.

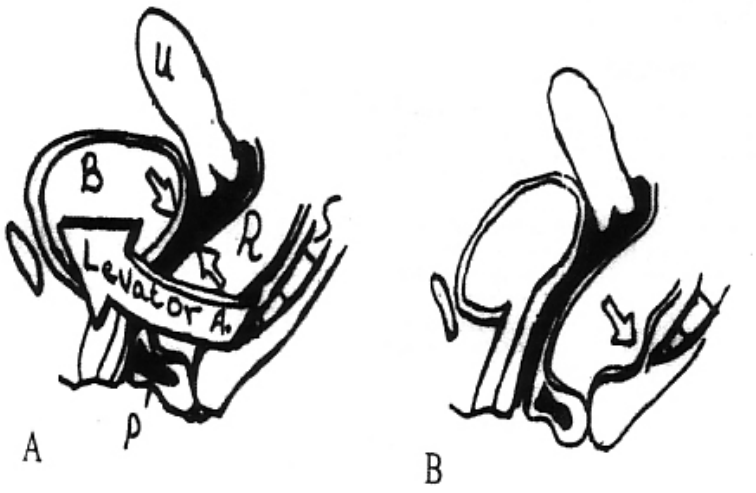

Fig. (6): [A] B. urinary bladder, U. uterus, R. rectum, S. sacrum, P. Perineal body, the large arrow denotes the levator ani and its direction of action which supports the posterior rectal wall, the two small arrows show how the anterior and posterior vaginal wall support each other with the anterior rectal wall by levator contraction. [B] The lack of levator ani support causes posterior rectocele, arrow shows direction of force toward posterior rectal wall.

Closure of pelvic floor by levator ani muscle that compresses the posterior vaginal wall against the anterior wall. Thus, during period of increase abdominal pressure, there will be a balanced pressure on anterior and posterior vaginal wall. This occurs at upper level of vagina but caudally, however, the lower part of vagina is support by perennial membrane and body [4]. Levator dysfunction compromises this support system at the upper part of vegina which allows formation of anterior rectocele at that level, but not caudally which is will supported by perennial membrane and body. In all our female cases levator dysfunction, anterior rectocele was present. The posterior rectocele was located at a lower level (opposite the coccyx, just above the ano rectal junction) than the anterior rectocele, this location could be related to the descend of the ano-rectal junction during defecation below the tip of coccyx, and looses its support (Fig 6).

One the other hand, a discrepancy was found between the size of the anterior and posterior rectocele. A large anterior rectocele (more than I inch) occurred in 89.9% and small posterior rectocele. (less than 1 inch) occurred in

89.9%. one case (11.1%) the posterior rectocele was larger (1.5inch) than the anterior rectocele (1 inch). This discrepancy could be related to the rectal contraction during the process of evacuation exerting a higher pressure on certain parts of the rectum more than the others and different support mechanism to the rectal wall.

Defecography is the gold standard tool for assessing morphological as well as functional disorders involving anorectal region. Usually, rectocele appears during the phase of straining, as it bulges through the unsupported point of the rectal wall. The site, size and shape of rectocele could be identified by defecography which might also reveal its cause.

In conclusion, posterior rectocele occurred as a result of the levator dysfunction, this participate in the lack of support of the posterior reclal wall due to absence of levator mediated closure of the pelvic floor as well as descend of posterior rectal below its normal level.

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