

Differences of Anorectal Manometry Between Diarrhea- and Constipation-predominant Irritable Bowel Syndrome

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Background/Aims: The aim of this study was to identify differences in anorectal manometry between diarrhea-predominant cases and constipation-predominant cases in patients with irritable bowel syndrome (IBS). **Methods:** For 62 patients with IBS (29 patients with diarrhea and 33 patients with constipation) and 23 healthy controls, we measured maximum basal and squeeze pressure of anus, threshold of rectoanal inhibitory reflex, rectal compliance and volumes to elicit first sensation, sense of defecation, urgency and maximum toleration. The rectums of subjects were classified into a normal type, a sensitive type, and an insensitive type according to the threshold of sensation and expansion rate of rectum. **Results:** The volumes to elicit sense of defecation, urgency and maximum tolerable discomfort of patients with diarrhea were significantly lower than those of patients with constipation. Sixteen (55.2%) in the diarrhea-predominant patients with IBS had sensitive rectum but 4 (12.1%) in the constipation-predominant patients with IBS had sensitive rectum. There were no significant differences in other parameters among the two patients groups and controls. **Conclusions:** There were significant differences in the threshold of rectal sensation and rectal sensitivity between diarrhea-predominant patients with IBS and constipation-predominant patients with IBS. (Kor J Gastroenterol 2000;36:483 - 492)

Key Words: Anorectal manometry, Irritable bowel syndrome, Sensitive rectum

5 ml, 10 ml, 20 ml, 30 ml, 40 ml, 50 ml, 60 ml, 70 ml, 80 ml, 90 ml, 100 ml, 110 ml, 120 ml, 130 ml, 140 ml, 150 ml, 160 ml, 170 ml, 180 ml, 190 ml, 200 ml, 210 ml, 220 ml, 230 ml, 240 ml, 250 ml, 260 ml, 270 ml, 280 ml, 290 ml, 300 ml, 310 ml, 320 ml, 330 ml, 340 ml, 350 ml, 360 ml, 370 ml, 380 ml, 390 ml, 400 ml, 410 ml, 420 ml, 430 ml, 440 ml, 450 ml, 460 ml, 470 ml, 480 ml, 490 ml, 500 ml, 510 ml, 520 ml, 530 ml, 540 ml, 550 ml, 560 ml, 570 ml, 580 ml, 590 ml, 600 ml, 610 ml, 620 ml, 630 ml, 640 ml, 650 ml, 660 ml, 670 ml, 680 ml, 690 ml, 700 ml, 710 ml, 720 ml, 730 ml, 740 ml, 750 ml, 760 ml, 770 ml, 780 ml, 790 ml, 800 ml, 810 ml, 820 ml, 830 ml, 840 ml, 850 ml, 860 ml, 870 ml, 880 ml, 890 ml, 900 ml, 910 ml, 920 ml, 930 ml, 940 ml, 950 ml, 960 ml, 970 ml, 980 ml, 990 ml, 1000 ml.

(threshold of rectoanal inhibitory reflex),
(threshold of first sensation),
(threshold of defecation sense),
(urgency)
(maximum tolerable volume)
(rectal compliance) 10 cm

cm, 50 ml, 50 ml

8, Mann-Whitney U test, p

0.05

1.

2가, 2가, 4가

가, 가, 가

ANOVA, Student t-test, 가

50.7 ± 15.6 mmHg, 60.2 ± 17.7 mmHg, 56.0 ± 14.3 mmHg

(p=0.073)(Fig. 1).

Fig. 1. Maximum basal pressure of anus. There was no significant difference in maximum basal pressure of anus among three subgroups (p=0.073).

2. (p=0.312)(Fig. 2).
100.5 ± 30.1 mmHg, 3.
98.2 ± 27.4 mmHg, 89.7 ± 18.8
mmHg 14.5 ± 5.1 ml, 15.6 ± 4.8 ml,

Fig. 2. Maximum squeezing pressure of anus. There was no significant difference in maximum squeezing pressure of anus among three subgroups (p=0.312).

Fig. 3. Threshold of anorectal inhibitory reflex. There was no significant difference in the threshold of anorectal inhibitory reflex among three subgroups (p=0.626).

15.0 ± 3.4 ml
(p=0.626)(Fig. 3).

4.

26.7 ± 9.5 ml,
(p=0.280)(Fig. 4).

27.2 ± 6.0 ml

23.8 ± 8.8 ml,

Fig. 4. Threshold of first sensation. There was no significant difference in the threshold of first sensation among three subgroups (p=0.280).

Fig. 5. Threshold of defecation sense. The threshold of defecation sense in patients with diarrhea was significantly lower than in patients with constipation (p=0.000).

5. 가
 (p=0.001), (p=0.007)
 (p=0.001) 가 (p=0.135)(Fig. 7).
 61.4 ± 16.5 ml, 46.0 ± 11.1 ml,
 53.9 ± 6.2 ml 가
 가
 8.
 (p=0.000), 7.6 ± 3.3 ml/mmHg,
 (p=0.006), 9.6 ± 4.2 ml/mmHg, 9.0 ± 2.1
 (p=0.044) ml/mmHg
 (p=0.000)(Fig. 5). p=0.069)(Fig. 8).
 6. 9. 96.9 ± 32.0
 ml, 132.1 ± 52.3 ml, 108.3 ±
 21.0 ml 13/29 (44.8%), 16/29 (55.2%),
 가 (p=0.002), 0%, 22/33 (66.7%),
 가 (p=0.130) 4/33 (12.1%), 7/33 (21.2%)
 (p=0.043) (p=0.003)
 (Fig. 6). 가 (p=0.000).
 7.
 199.7 ± 48.4 ml,
 260.6 ± 84.0 ml, 232.6 ± 32.4 ml

Fig. 6. Threshold of urgency. The threshold of urgency in constipated subjects was significantly higher than in subjects with diarrhea (p=0.003).

Fig. 7. Maximum tolerable volume. Maximum tolerable volume in patients with diarrhea was significantly lower than in patients with constipation ($p=0.001$).

Fig. 8. Rectal compliance. There was no significant difference in rectal compliance among three subgroups ($p=0.069$).

(slow wave)
,11 ,12 2
7 가 .
94%

3 가 14

.34 가 가

가 가

가 ,13 가 가

가 가 .2 Mertz 3 가 가

가 가

3 가

가 가

가 55%, 45%

가 67%, 21%, 12%

2가 4가 2 가

가 2

가 2 가

가 가 가

가 3 가

가 가

45%, 67% 가 가 가 가

가

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