286

Takahashi T[1], Tsunoda A[2], Kusanagi H[2]
1. *Gastroenterology surgery, Kamede Medical Center,* ***2.*** *Gastroenterological surgery, Kameda Medical Center*

ANTERIOR INTUSSUSCEPTION DESCENT DURING DEFECATION IS CORRELATED WITH THE SEVERITY OF FECAL INCONTINENCE IN PATIENTS WITH RECTOANAL INTUSSUSCEPTION

Hypothesis / aims of study
Rectoanal intersussusception (RAI) is an infolding of the rectal wall that may occur during defecation. It is a common finding on evacuation proctography in patients with defecation disorders. RAI is divided into level I (descends onto the sphincter/anal canal) and level II (descends into the sphincter/anal canal). However, RAI remains unclear whether intussuscetion morphology affects the severity of fecal incontinence (FI). The aim of this study was to examine the effect of morphology during defecation on the severity of FI in patients with RAI.

Study design, materials and methods
Patients seen in the clinic with symptoms of rectal evacuatory disorder underwent evacuation proctography as a part of the investigation protocol. Data for the patients with RAI were prospectively entered into a pelvic floor database. The level of RAI was divided into level I or level II. FI symptoms were divided into urge and passive incontinence. A functional inventory of FI symptoms was documented using the Fecal Incontinece Severity Index (FISI) score. Each patient underwent anorectal manometry. The following morphological parameters were measured from evacuation proctography: (1) the thickness of intussusception, (2) the distance from the point of 'take-off' of the intussusception to the anorectal junction, (3) the intussusception descent. Pelvic floor descent during defecation was estimated by the extent to which the anorectal junction descended in relation to the inferior margin of the ischial tuberosity.

Results
Between June 2011 and June 2015, 292 patients underwent evacuation proctogaphy, and 142 (49%) were found to have RAI. Of these, 62 had obstructive defecation (OD) alone, while 80 had FI and were included in the study. Twenty-eight patients had level I and 52 had level II RAI. The mean FISI score was 24.0 (8-47). FISI score tended to be significantly greater in level II than in level I cases. The type of FI was passive 65(81%), urgent 13 (16%), and both 2 (3%). The mean maximum resting and squeeze pressure was 57(32-99) and 204 (55-'747). There was no significant difference between the resting pressures at the two RAI levels. The anterior intussusception descent was significantly greater in level II than in level I RAI [24.2 (9.2-39.5) vs. 17.7 (7.8-39.4) mm; $P < 0.0001$]. When the morphology of RAI was compared between the 80 patients with FI and 62 patients without FI (OD alone), the incidence of level II was ignificantly greater in the former group than in the latter group (52/80 vs. 23/62, $P= 0.001$). Similarly, the patients with FI had greater pelvic floor descent [22.9 (-16.1-45.4) vs. 19.1 (0-42.9) mm, $P=0.03$] and anterior intussusception descent [21.9(7.4-39.5) vs. 17.0 (7.0-52.8) mm, $P < 0.0001$] , compared to those without FI, respectively. Regression analysis showed that anterior intussusception descent was predictive of increased FISI scores.

Interpretation of results
RAI alone would not be the cause of FI, because 62 patients with OD alone were found to have RAI. As mentioned above, the level of RAI, pelvic floor descent, or anterior intussusception descent may have an additional effect on the appearance of FI.

Concluding message
The severity of FI may be affected by anterior intussusception descent in patiants with RAI.

Disclosures
Funding: I have no source of funding or grant **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** The Ethical Committee of Kameda Medical Center **Helsinki:** Yes **Informed Consent:** Yes