

Defecography: a report on 35 cases

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Purpose. To evaluate indications in the patients referred for defecography to our Institute between October 1996 and December 1999.

Patients and methods. In this period, 35 patients (31 women and 4 men, their mean age being 56,5 and 34,5 years, respectively) with defecation disorders of 1 month to 17 years of duration were referred to us for defecography - 26 from proctology specialists and 9 from internal medical out-patient departments. After the rectum was filled with thick barium paste, spot shots from lateral position were made in different phases of defecation, with the patient sitting on a specially designed commode.

Results. Rectocele was found in 21 cases, in 9 cases in association with rectorectal intussusception, in 3 with rectoanal intussusception and in 2 with herniation of rectal wall into ishiorectal fossa. Prolapse was found in 2 cases, and 4 rectorectal intussusception, 1 rectoanal intussusception and 3 fistulas were diagnosed. The findings were normal in only one case, while in 3 cases defecography showed functional abnormalities. In female patients, symptoms started after gynaecological operation in 11 cases and in 6 cases after delivery. Eight women had to press perineum with their hand to facilitate defecation.

Conclusions. Defecography proved useful in clarifying the pathology underlying patients' difficulties.

Key words: defecation; rectal diseases - radiography; intussusception; ulcer

Introduction

Defecography is a very simple functional X-ray examination. It evaluates the anatomy and the function of the anal canal and rectum, and assesses movements of the pelvic floor in people with defecation disorders.¹ It was first described in 1952², but only a few reports on the

topic were published by 1984, when the interest in defecography started to rise again.³ Since then, the examination has obtained an important role in the diagnosis of functional and structural abnormalities of the anorectum.

In Slovenia, the first defecography was performed at the Ljubljana Clinical Institute of Radiology in 1993. Chronic constipation, difficult or prolonged evacuation, and incontinence were the most common referring diagnoses in our series. We were interested in whether the examination could clarify the pathology underlying the patients' problems, which - by their nature not life-threatening but quite often rather embarrassing - make

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patients uneasy to seek medical help and thus prolong their suffering.

Patients and methods

From October 1996 to December 1999 we performed defecography in 35 patients, 26 women (mean age 56,5 years) and 4 men (mean age 34,5 years). The referring physicians were proctologists in 26 cases and specialists of gastroenterology in 9 cases. The indications for the examination were: suspected rectocele (11), chronic obstipation (10), incontinence (3), solitary rectal ulcer (3), fistula (3), prolapse (2), psychoorganic syndrome (2), and pain at defecation (1).

The procedure of defecography was carefully explained to the patients. They were instructed to apply a laxative suppository (Dulcolax) two hours prior the examination. With the patient in the left decubitus position, the empty rectum was then filled with 250-300 ml



Figure 2. Rectum and anal canal at rest.

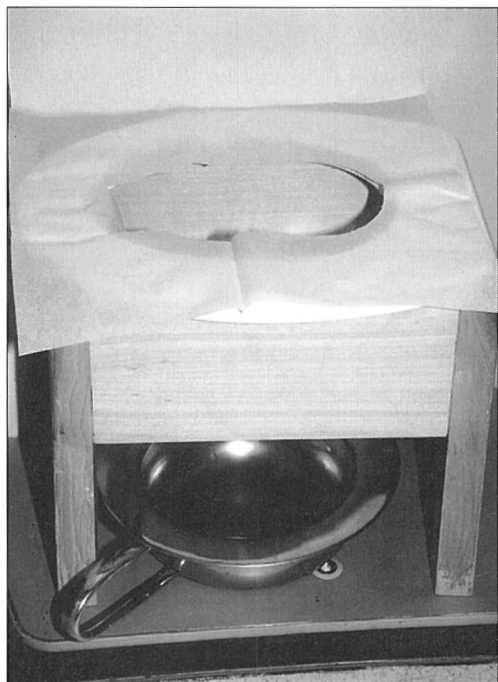


Figure 1. Commode for defecography.

of thick barium paste (Prontobario esofago, Bracco, Milan, Italy) by means of rectal sound and plastic syringes. The patient was seated on a specially designed commode (Figure 1), mounted on the footboard of fluoroscopy stand in an upright position. Spot films of the anal canal and rectum in lateral position were made at various phases of defecation: 1 - at rest (Figure 2), 2 - during squeezing (Figure 3), 3 - during straining (Figure 4, 5), and 4 - at the end of evacuation (Figure 6). Movements (elevation and descent) of the pelvic floor were observed as well as any structural anomalies which may have become evident during defecation (e.g. rectocele, intussusception etc.), and the time and the extent of rectal emptying were evaluated.

Results

In our group of patients, rectocele was diagnosed in 21 cases, many of them in association with other structural abnormalities. Anterior rectocele was found in 7 cases. The

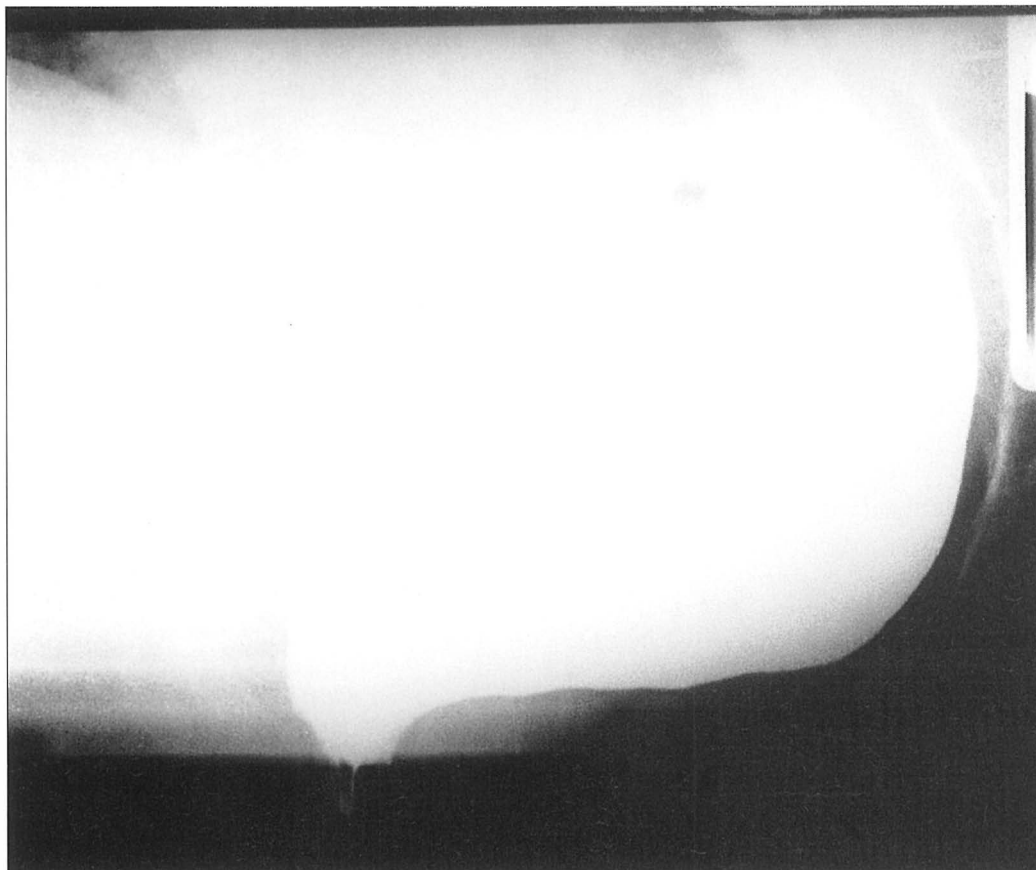


Figure 3. Rectum and anal canal during squeezing - pelvic floor is elevated.

indications for defecography were: suspected rectocele in 4, chronic obstipation in 2, and solitary rectal ulcer in 1. Rectocele in association with rectorectal intussusception was found in 9 cases, with indications as suspected rectocele in 5, and chronic obstipation in 4. Rectocele with rectoanal intussusception was found in 3 patients, all with the diagnosis of chronic obstipation. Rectocele with herniation of a part of rectal wall into ischiorectal fossa was diagnosed in 2 cases, in 1 patient with the diagnosis of chronic obstipation and in another with the diagnosis of psychoorganic syndrome. Rectorectal intussusception was found in 4 cases: 2 patients had diagnosis of suspected rectocele and 2 had solitary rectal ulcer. In 3 patients with clinically suspected

fistulas we proved all three, one rectovaginal, one intraanal and one rectocutaneous. In 2 cases we confirmed the clinical diagnosis of prolapse, with no other structural changes. Rectoanal intussusception was diagnosed in 1 case of incontinence. Functional disturbances were found in 3 cases: in 2 clinically incontinent patients poor movement of pelvic floor and a wide open anal canal were observed, in 1 patient with the diagnosis of psychoorganic syndrome prolonged evacuation time and incomplete evacuation were noted.

The shortest period from the onset of symptoms to defecography was one month. This was the case of a woman, the oldest in our group, who had rectal prolapse. The patient, who had been suffering from disturbed defe-

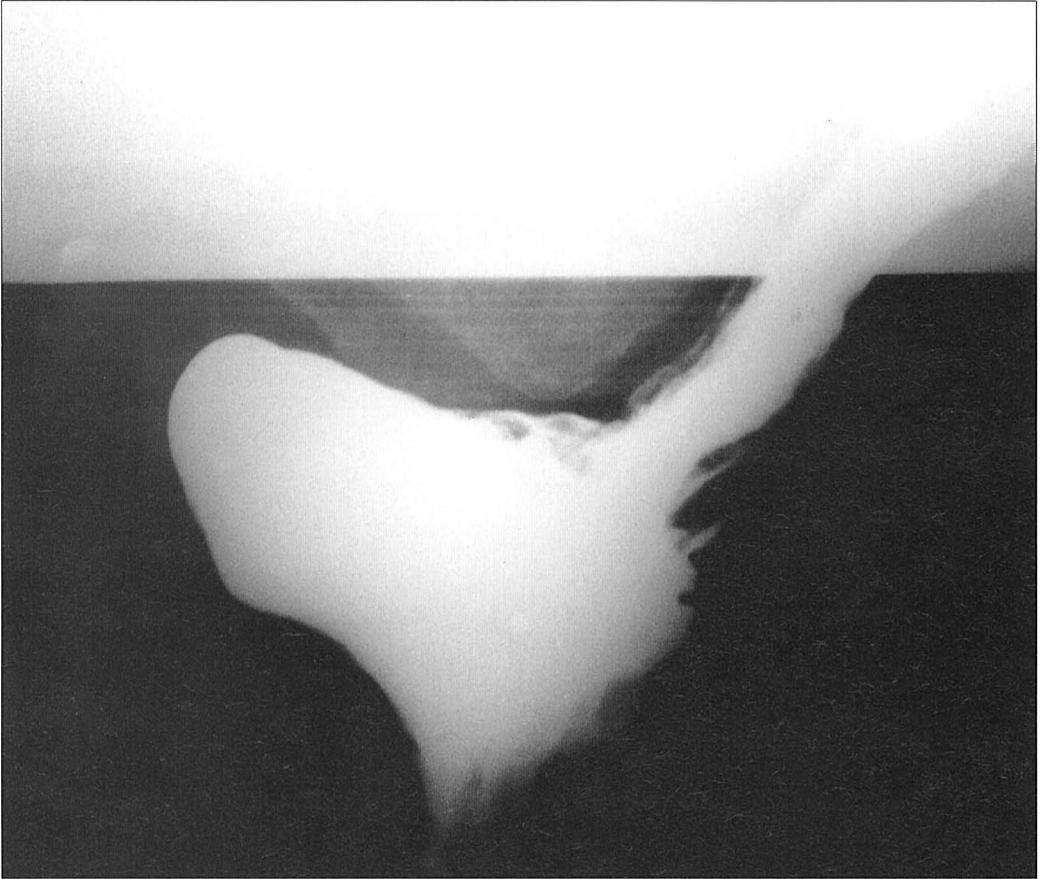


Figure 4. Rectum and anal canal during straining - formation of an anterior rectocele.

cation for 17 years, was a woman, a mother of four children. Her symptoms started at the birth of the first child and were getting worse with each delivery. In most female patients the symptoms lasted for several years, 4-5 years on the average. In 11 female patients the symptoms started after gynaecological operation, in 6 after birth delivery. Eight of these women had to help themselves to begin and/or to facilitate defecation by hand manipulation.

There were only 4 male patients in our group. Their symptoms were different from the women's: 2 had solitary rectal ulcer syndrome and 2 had fistulas.

Discussion

Defecography is a dynamic radiologic investigation of the rectum and anal canal in which the patient is studied seated on a special commode and recordings are obtained at rest, during straining and during evacuation.⁴ Double contrast barium enema and endoscopy are static examinations that do not allow a detection of functional anomalies. Even proctoscopic examination during straining cannot reveal all the abnormalities.

The advantage of defecography is its ability to reveal internal (rectorectal or rectoanal) intussusception, as this may develop into rectal prolapse. Thirteen of our patients had intu-

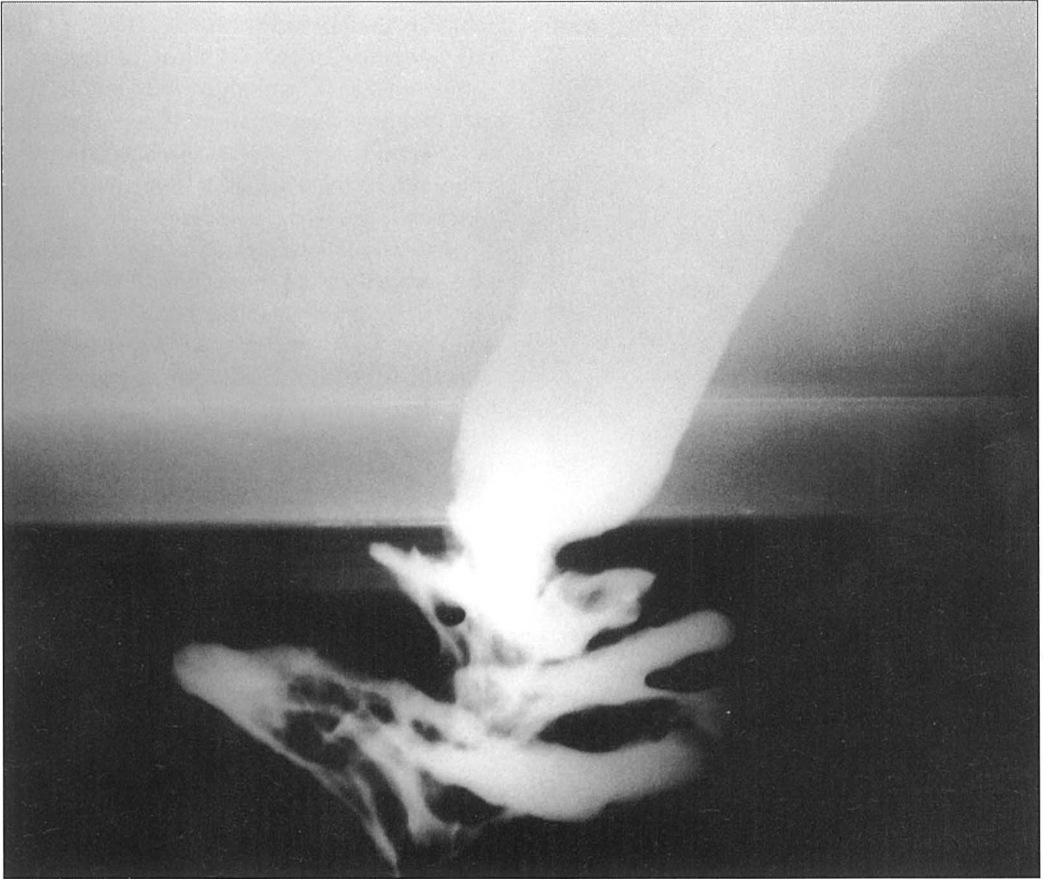


Figure 5. Rectum and anal canal during straining - formation of recto-anal intussusception.

ssusception of the proximal portion of the rectum into the distal one and 4 had intussusception into the anal canal. The internal rectal intussusception has various stages of severity and milder forms are now considered normal.¹ Elsewhere,⁴ intussusception was found in only 19% of cases. Most likely, our relatively high number can be explained by two facts: first, also milder forms were found in our retrospective study, and second, only severe cases of difficult defecation were referred to us for defecography, the examination not being well known or even recognised as yet in Slovenia. It is only performed at our Institute.

Solitary rectal ulcer syndrome is an entity that consists of a benign rectal lesion, accom-

panied by disorders of defecation, most often caused either by rectal intussusception or spastic pelvic syndrome.³ Three of our patients had endoscopically diagnosed solitary rectal ulcer. At defecography, rectal intussusception was found in two cases, and rectocele in one.

Rectocele is an outpouching (hernial protrusion) of the anterior rectal wall. It is a quite common finding, but most likely of no clinical importance unless large and associated with the retention of contrast material.¹ In our group of patients rectocele was found in 21 cases, the incidence being high, if compared to other studies.^{1,3} However, in all our cases the retention of contrast material in the rectum was observed.

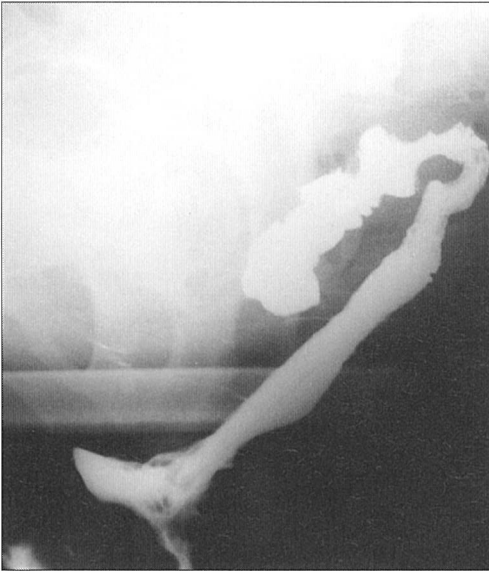


Figure 6. End of evacuation - rectum is empty, a small anterior rectocele is formed.

Defecography is a dynamic X-ray examination of functional and morphologic abnormalities of the anorectal region. It is also very useful and, as proved in 3 of our cases, sometimes the only imaging modality to detect fistulas. A young woman suffering from Crohn's disease was examined by a gastroenterologist, gynaecologist, proctologist, and abdominal surgeon because of her complaints suggestive of a fistula. When it was not found at repeated endoscopic examinations, the patient's complaints were disbelieved by the examiners. At defecography, a rectovaginal fistula was proved. In the other two cases, both male patients with clinically suspected fistula and no prior examinations, fistulas were found at defecography: in the first one - a patient suffering from Crohn's disease - rectocutaneous fistula with subcutaneous abscess, and in the other - with previous surgical procedure - intraanal fistula was demonstrated.

In our series we found only three cases of functional anomalies with no structural changes: in two incontinent patients wide open anal canal and poor movement of pelvic

floor, also reported by other studies⁵, and in one patient with the diagnosis of psychoorganic syndrome, prolonged evacuation time and incomplete evacuation were noted. The latter abnormality was described as anismus - impaired rectal evacuation secondary to a functional disturbance of defecation.⁶

Two cases of lateral outpouching of the rectal wall were found in our group of patients. Since defecography is usually done in the lateral projection, the anomaly which could be described as lateral rectocele or herniation into the ischio-rectal fossa, i.e. ischio-rectal hernia⁷, was observed in the AP projection. Hence the recommendation given by Kaasbol et al.⁸ that not only lateral but also AP and/or oblique projections should be used at defecography, gained validity.

As in other studies^{1,6,9}, the majority of our patients were women (31 out of 35). It has been well established^{10,11} that symptoms of disturbed evacuation may start after gynaecological operation (11 cases in our group) or after birth delivery (6 cases). Most disturbing in our series is the long history of symptoms: women, especially those 8 in our group who had to help themselves with their hands at defecation, were too embarrassed to seek medical help earlier. And after they did, they were »treated« by bulk laxatives, given dietary advice and, two of them, even prescribed sedatives.

Conclusion

Defecation disorders have many causes and defecography is a useful imaging modality for detecting functional and structural abnormalities in the anorectal region. In our study the correlation between symptoms and defecographic findings was good, while in other studies this correlation was poor.^{1,12} Our good result is most likely based on the fact that defecography is not yet a widely recognised examination in Slovenia, so that only patients

with long-lasting and severe symptoms were referred for the examination. This is also the cause of the small number of patients in our series.

We have no data of the impact of our defecographic results on clinical decisions or treatment of our patients. If nothing else, we could objectively assess the reasons for defecation problems and to explain them to the worried patients. It was quite a relief to many of them to hear their problems really had anatomic and physiologic explanation.

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