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Original Research Article

Clinical Presentation of Partial Rectal Mucosal Prolapse and Its Outcome Following Submucosal Injection of 50% Dextrose Water

Kadhim Chaloub Hasan Al-Hamadani
College of Medicine, University of Babylon, Hilla, IRAQ

E-mail:kadhas2015@gmail.com

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Abstract

The study investigated the clinical presentation and proctoscopic findings of anterior rectal mucosal prolapsed (ARMP) and to evaluate the effect of submucosal injection of 50% dextrose water(DW) as a sclerosing agent. All the cases which were diagnosed as anterior rectal mucosal prolapsed and treated by submucosal injection of 50% dextrose water during the period of 10 years were prospectively studied. The included cases were studied with regard to age, sex, symptoms and signs of presentation and the findings of proctoscopic examination and the number of medical consultations prior to final diagnosis. The patients were followed up to 18 months. The response of the patients was evaluated, and the number of injection settings for each case, complications, recurrences.

28 cases of ARMP, 24(85.71%) males, 4 (14,28%) females, age range 4-45 years. Among the symptoms of presentation, the most frequent were a bulging perimass 53%, straining at stool and delay in lavatory 50 %.

The findings on proctoscopy; prolapsed anterior rectal mucosa 100%,anterior rectal ulcers 42.85% .Sclerotherapy was successful in 96.5%.24 patients improved after one session,3 cases required two sessions to improve while 1 case failed (P value < 0.001).

We can conclude that ARMP affects all ages. The patients commonly present with obstructive defecation rectal bleeding associated with perianal bulging. sclerotherapy using 50% DW is simple and safe and effective procedure for ARMP.

Key words : rectal prolapse, sclerosing agents, constipation, rectal bleeding.

التقديم السريري لتدلي غشاء المستقيم الجزئي ونتيجته بعد حقن محلول الكلوكوز المائي تركيز ٥٠% تحت الغشاء المخاطي

الخلاصة

تهدف الدراسة لتقييم التقديم السريري ومشاهدات ناظور المستقيم لتدلي غشاء المستقيم الجزئي وتقييم تأثير حقن محلول الكلوكوز المائي كعامل مليف لمعالجة تلك الحالات المرضية. دراسة مستقبلية للحالات المرضية المشخصة والمعالجة –تدلي غشاء المستقيم الجزئي– خلال عشر سنوات. تم دراسة جوانب العمر والجنس والاعراض التقديمية السريرية وعدد مرات الأستشارات الطبية التي سبقت التشخيص النهائي. سجلت الاستجابة وعدد الجلسات المنجزة والمضاعفات الناتجة عن حقن محلول الكلوكوز المائي بتركيز ٥٠% تحت الغشاء المخاطي للمستقيم. اعتمد توزيع ذي الحدين لتقييم النتائج احصائيا.

خضع للدراسة 28 مريض , ٢٤ ذكور (85,71%) ,٤ اناث (14,29 %) . كانت مشاهدات تنظير الشرج – تدلي الغشاء المخاطي لجدار المستقيم ألأمامي ١٠٠%بواسير شرجية(٣٥% ٣٣) تقرح الشرج(42.85%) وفطر شرجي (16.7%). سجل ألشفاء خلال المراجعة الأولى للطبيب بعد حقن الدكستروز المائي تحت الغشاء المخاطي للشرج . ٢٤ مريض تحسنوا بعد جلسة واحدة و ٣ مرضى يعد جلستين و ١ مريض لم تتحسن حالته.

من مجموع ٢٨ , ٢٧ تشافوا. نستطيع استنتاج ان مرض تدلي الغشاء المخاطي للشرج يشمل كافة الاعمار .المرضى المصابون بتدلي الغشاء المخاطي ألأمامي للمستقيم عموما يتقدمون بأعراض انسداد وظيفة التغوط, امساك مع انتفاخ و حكة حول الشرج..معالجة تهدل الغشاء المخاطي بزرق محلول الدكستروز المائي ٥٠% تحت الغشاء طريقة سهلة وكفؤة و أمينة.

الكلمات المفتاحية : تدلي الشرج, العناصر المليفة, إمساك, نزف شرجي

Introduction

Mucosal prolapse syndrome comprises a variety of clinical and histopathological entities, with mucosal prolapse as the under lying pathogenic mechanism. Disorders considered part of this condition include rectal prolapse, solitary rectal ulcer syndrome (SRUS). Proctitis cystic a profunda (PCP), inflammatory cloacogenic polyp, inflammatory polyps and inflammatory myoglandular polyps [1-2].

Rectal prolapse usually occurs at extreme of age, Rectal prolapse in children is not uncommon [3].

It is assumed that the sclerosing agent produce an inflammatory response and scar with considerable submuscosal fibrosis which prevent s prolapse by causing adhesion of loosely adherent rectal mucosa to the underling muscles [4]. The most common form of rectal prolapse is idiopathic, where no definite cause for prolapse could be found [5].

Batool et al in their study found that in more than 50% of patient prolapsed disappeared within 3 months. It is therefore recommended to wait at least three months before embraking up on any other mode of management[6].

Rectal prolapse is a benign and self –limited condition that causes considerable anxiety for the child and his family according to severity of the disease [7]. In rectal mucosal prolapse syndrome, the mucosal prolapse syndrome, the mucosa of the anterior wall of the rectum becomes redundant and obstructs the anal canal, preventing the passage of stool .The redundant mucosa of the anterior rectal wall is excised via a transanal approach. and the wound is closed with sutures, Attempt s have been made recently to treat this syndrome by a simple procedure using an instrument that removes a mucosal tube including the redundant mucosa and anastomoses the cut ends, This procedures is called PPH [8]. When excessive straining is repeated during defecation attempts for some reasons, it results in prolapse of the rectal mucosa solitary rectal ulcer or rectocele, leading to aggravation of difficulty with defecation. Once this vicious cycle is established. vigorous straining is repeated to facilitate defecation ,leading to perineal descent. This results in the nerves innervating the anus and rectum becoming stretched and injured ,resulting in neuropathy and damage to the musculature of the pelvic floor Eventually, rectal prolapse and fecal incontinence may arise from such secondary injury [9]. Parasitic infestations, mainly enterobiasis and amoebiasis, and poor toilet training practices are commonly associated with rectal prolapse in developing countries [10]. The study aimed to gain early diagnosis and evaluate submucosal dextrose water 50%in cases of partial rectal mucosal prolapse.

Materials and Methods

The cases which were diagnosed and treated as partial rectal prolapse during a 10 year period from January 2001 to December 2010 were prospectively studied. The included cases were studied with regard to the age, sex, sign and symptoms of presentation. The number of medical visits prior to final diagnosis .Proctoscopy was done under topical anaesthesia in adults while injecting dextrose water 50% in the submucosa of the rectum, the patient was requested to squeeze. In children, the

procedure was done under general anesthesia. The diagnosis of partial rectal prolapse relied on finding of folded redundant mucosa with erythema, oedema with or without ulceration; mainly in the anterior rectal wall. The volume of the sclerosant to be injected was 1ml/kg in children and 10-15ml in adults. The response, the number of sessions of injection of 50% dextrose water was recorded. Binomial distribution of the results of the procedure was evaluated.

Results

29 cases diagnosed as anterior mucosal prolapsed (ARMP) and treated by submucosal injection of 50% dextrose water as a sclerosing agent during the study period .one male patient escaped the follow-up while 28 patients; 24 (85.71%) males, 4 (14.28%) females,age range 4-45 years were followed for 18 months. Among the symptoms of presentation straining at stool and delay in lavatory ranked first while a bulging from one side of the anus on examination ranked first among the signs .only 10 (35.71%) of the cases were diagnosed on first medical consultation .the findings on proctoscopic examination were prolapsed anterior rectal mucosa in all the cases 100%, anterior rectal ulcers 12 (42.85%), haemorrhoides were found in 8 (33.3%), anal fissure in 4 (16.7%) and anterior rectal wall ulcers, erythema and odema among 12 (42.85%) of the cases. The histopathology of the ulcers showed nonspecific inflammatory characteristics .rectal prolapse was treated by submucosal injection of 50% dextrose water . the results of sclerotherapy were successful in 27 (96.5%) anterior rectal ulcers healed after 3months since time of injection.24 patients were improved after one session, 3required two sessions aa success rale of (96.25%) respectively. Only 1(3.5%) did not respond to sclerotherapy so surgical excision of the prolapsed mucosa was attempted.

The only postoperative complication recorded in one male adult patient was moderate internal (rectal pain) started 15 minutes following the injection which persisted for 1 hour and relieved by intramuscular injection of 50%dextrose water. Must patient presented with a combination of symptoms suggesting obstructive defecation in the form of straining, delay in lavatory to get a bowel motion, feeling of incomplete evacuation and constipation, their diagnoses was late either being diagnosed as prolapsed or bleeding hemorrhoids or constipation due to improper toilet training. Proctoscopic evaluation proved anterior rectal ulcer (2-5mmin size),erythema and odema among 12 (42.85%) of the cases. After initial assessment with correction of predisposing factors, persistant rectal prolapse was treated by submucosal injection of 50% dextrose water.

Discussion

Most of our patients were males but this distribution did not reflect the real incidence because in our society females consult female gynecologists rather than male general surgeons while jurgeleit H C and his colleagues reported that the majority of patients with rectal prolapse are women [11].

During childhood, rectal prolapse occurs with equal frequency in boys and girls [12-13].

Most patiet with rectal prolapsed who did not give history of perianal bulging were diagnosed only after two or more medical visits because either proctoscopy was not done or it has been done but the surgeon did not notice a prolapsed rectal mucosa because he did not ask his patient to squeeze during inspection of the rectum. Moreover, if the examination was done under general anesthesia there would be no possibility of straining . children who were diagnosed to have rectal prolapsed, in our study, secondary causes of rectal prolapse were

excluded by a team including their referring physicians .These causes involve chronic constipation, neuromuscular disorders, scleroderma, Hirsch sprung disease ,rectal polyp, cystic fibrosis and parasites [14].

Straining at stool and delay in lavatory 14 (50%) ranked first among the presenting features, in addition to failings of incomplete evacuation 10 (35.71%), all these indicated that obstructive defecation dominated the presentation of rectal mucosal prolapsed.

Constipation was 10 (35.71%) in our study, Chiang JM and colleagues stated that it is frequently reported, and about 30% of patients acknowledge rectal digitations [15].

Patients may also be asymptomatic [16]. For children the volume of dextrose water injected was 1 ml/kg as Chan et al used in his study who reported a success rates of 64% after the first injection and 84% after the second injection in comparison to our study the results were 85.7% and 92.8% respectively and the disparity can be due to the selection of mucosal prolapsed only in our study [17].

Inspite of the needle being introduced through the rectal mucosa directly, no case of perianal sepsis as a complication among our patients was recorded while it has been reported following injection sclerotherapy by others [18].

Response rate to injection sclerotherapy is variable, majority of patients are cured with first injection like the results in our study. Up to 3 sessions of injection sclerotherapy are described in the literature [19-20].

Conclusion

Patients children and adults with partial rectal prolapse commonly present with obstructive defecation (straining at stool, and delay at lavatory, feeling of incomplete evacuation, and constipation) and rectal bleeding associated with perianal itching. Diagnosis of partial rectal prolapsed was usually late. Proctoscopy may help detect its diagnosis early if it is performed while the patient squeeze to identify the prolapsed rectal mucosa, solitary ulcer or oedema in the anterior rectal wall. Injection sclerotherapy using 50% dextrose water is simple and safe and effective procedure for treatment of partial rectal mucosal prolapsed and should be applied when conservative measures failed.

Table 1: Patients ages, sex, and number of medical visits until diagnosing ARMP

Serial no.	Age in years	sex	No. of visits until diagnosis		Serial no.	Age in years	sex	No. of visits until diagnosis
1	4	female	2		15	44	male	1
2	5	male	2		16	39	male	2
3	5.6	male	1		17	12	male	2
4	5.5	male	3		18	30	male	2
5	10	female	2		19	42	male	1
6	20	male	1		20	7	male	3
7	7	male	2		21	33	female	2
8	27	male	2		22	41	male	3
9	40	male	1		23	42	male	1
10	45	male	2		24	8	male	1
11	6	male	2		25	5	male	2
12	9	male	2		26	38	female	1
13	10	male	1		27	28	male	1
14	36	male	3		28	11	male	2

Table 2 : Clinical manifestation of the patient

Symptom	%
A mass bulging from one side of anus	53.57%
perianal itching	25 %
constipation	35.71%
Bleeding after defecation	4 2.85 %
Feeling of incomplete evacuation	35.71%
Straining at stool and delay in lavatory	50%
Rectal prolapsed (noticed by the patient or mother in children	35.71%

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