ORIGINAL ARTILE

Diagnostic and Therapeutic outcome of Flexible Sigmoidoscopy in 1004 consecutive patients, at Liver Clinic, Lahore, Pakistan

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ABSTRACT

Aim: To evaluate retrospectively the diagnostic and therapeutic outcome of Sigmoidoscopy in 1004 consecutive patients, at Liver Clinic, Lahore, Pakistan
Study Design: Retrospective study
Methodology: In a retrospective analysis of 1004patients who underwent sigmoidoscopy, gender, indication for sigmoidoscopy, endoscopic diagnosis and therapeutic maneuver offered were the qualitative variables, while age of the patients was only the quantitative variable. The data was analyzed using SPSS version 15.
Results: Out of the total of 1004 patients, 70.4% were male and 29.6% female. The most common presentation for sigmoidoscopy was Bleeding per-rectum (PR) (46%). 56% patients had diseases of anorectum, while 38.1% patients had diseases confined to rectum, sigmoid colon and descending colon. The commonest diagnosis was internal hemorrhoids (in 481 out of 1004 patients), followed by ulcerative colitis, benign colorectal polyps, discrete ulcerations, anal fissure, and many more. 34.1% patients were offered some kind of therapeutic maneuver during or soon after sigmoidoscopic examination; among which hemorrhoidal band ligation (56.1%) was the most common one. Other maneuvers performed were Manual dilation of anus (MDA) (15.8%), Polypectomy (15.5%), Stricture dilatation (5.8%), Manual evacuation of impacted stool (2%), Electrocoagulation (1.8%), Triamcinolone injection into fibrotic patch (0.9%), Foreign body retrieval (0.3%) and Leiomyoma resection (0.3%).
Conclusion: Bleeding PR was the commonest presentation of patients undergoing sigmoidoscopy. Internal hemorrhoids, anal fissure, ulcerative colitis and benign polyps were the common diagnoses. A significant proportion (34.1%) of the patients benefited therapeutic maneuvers, offered during the procedure
Keywords: Sigmoidoscopy, Anorectum, Hemorrhoidal band ligation, MDA

INTRODUCTION

Flexible sigmoidoscopy is a procedure to look inside distal portion of digestive tract from anus till splenic flexure[1]. It is a walk-in-clinic type procedure, where full colonic preparation is not required; only pre-procedure purgation with enemas is sufficient[2]. In addition to the diagnosis, therapeutic maneuvers are performed in the area of anus, rectum, sigmoid colon and descending colon[3].

The anorectum includes entire 4 cm of anal canal and distal 2cm of rectum[4].The main diseases affecting anorectum[5] includes hemorrhoids, anal fissure, anal skin tags, anal warts, anal stenosis, unexplained anal pain, foreign body, anal malignancy, perianal fistulas and abscesses. Rubber band ligation (RBL) is called office procedure for grade II and III internal hemorrhoids and its success rate is 65%-75%[6].Anal dilation[7] is a procedure for anal fissure, anal stenosis and tight sphincter during examination

The rectum is approximately 15cm long[8] and possesses 3 semilunar valves. At 20cm from anal verge, rectosigmoid junction comes into view. After visualizing approx. 40cm long sigmoid colon, descending colon is inspected upto splenic flexure[8].The diseases exclusively affecting rectum include proctitis, solitary rectal ulcer, rectal prolapse and rectal Varix. The proctitis is classified as alimentary, stagnant, infectious, radiation-induced, diversion and ulcerative proctitis. Excessively spicy food, venous stasis due to constipation, rectal infections, pelvic radiations, stool diversion and immune process are their etiologies respectively[9].Others diseases commonly affecting rectosigmoid and descending colon are IBD, polyps, strictures, malignancy, vascular malformations, diverticular disease, segmental colitis, infectious colitis, non-specific colitis, impacted stools, pouchitis, worms and Dieulafoy type colonic ulcerations[10].The therapeutic sigmoidoscopic maneuvers commonly performed in rectosigmoid and descending colon include polypectomy, stricture dilatation, electrocoagulation, and stent placement.

The objective of this study was to evaluate retrospectively the diagnostic and therapeutic outcome of Sigmoidoscopy in 1004 consecutive patients, at Liver Clinic, Lahore, Pakistan. Additionally, the authors will share their experience regarding a new technique called manual dilation of anus (MDA) that was found useful without any after-effects, in anal fissure, anal stenosis and tight sphincters without visible anal fissure.

METHODOLOGY

This was a retrospective analysis carried out at Liver clinic, 250 Shadman Lahore. All the patients who underwent sigmoidoscopy from February 2010 to July 2017 were included. The age of the patients was categorized into child if ≤19 years, adult if > 19 years and senior citizen if ≥60 years.

The chief presenting complaints or indications for sigmoidoscopy were grouped into Altered bowel habits (ABH), Anal discomfort, Painful defecation, Per-rectal (PR)

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bleed & follow up after some therapeutic maneuver. Large bowel diarrhea, constipation, PR mucous, abdominal distension with inadequate evacuation was named as ABH.

The internal hemorrhoids were graded from I to IV if they did not prolapse, reduce spontaneously, required manual reduction and could not be reduced respectively. The symptomatic grade II and grade III internal hemorrhoids were ligated using sigmoidoscope[11].

Anal stretching with four fingers for 3-4 minutes under general anesthesia is known as Lord's operation[7].Anal dilation (Lord's procedure) has fallen out recently due to high incidence of post-procedure fecal / flatus incontinence[12]. Literature also shows that in experienced hands, incontinence is seldom seen[13,14.15]. We offered a modified technique of anal stretching with three fingers for 60 seconds soon after completion of sigmoidoscopic examination under propofol to all patients with Painful defecation plus tight sphincter, visible anal fissure or anal stenosis. We named this technique as MDA. Not a single patient reported post-procedure fecal/ flatus incontinence; instead a significant proportion reported post procedure benefit.

Diffuse ulcerations with loss of vascular pattern were typical for Ulcerative colitis. Discrete ulcerations were grouped separately where possibilities were Crohn's diseases, infectious colitis (amoebic, tuberculous, salmonella, CMV), Vasculitic colitis, NSAIDs colopathy and Behcet's disease. Discrete ulcerations with central white pit were more suggestive for amoebic colitis[15]. Discrete ulcerations with active blood pumping were named as Dieulafoy-type colonic ulcerations and were offered electrocoagulation urgently[10]. Biopsies for histopathologic diagnosis were taken from all type of ulcerations. Non-specific colonic ulcers were diagnosed after excluding all above known etiologies[10].

The gender, indication for sigmoidoscopy, endoscopic diagnosis and therapeutic maneuver offered were the qualitative variables, while age of the patients was the only quantitative variable.The entiredata was evaluated on SPSS version 15.During descriptive interpretation of data, means and standard deviations were calculated for the presentation of quantitativevariable, and frequencies and percentages were computed for qualitative variables.

RESULTS

A total of 1004 patients underwent sigmoidoscopy, out of which 707 (70.4%) were male and 297 (29.6%) were female. Age ranged from 6-100years, with a mean value of 43.73± 15.37.The most common indication for sigmoidoscopy was PR bleed (46%) followed by ABH (43.6%), painful defecation (7.8%), anal discomfort (1.8%) and follow up after some therapeutic maneuver (0.8%). (Fig. 1)

The endoscopic findings were within normal limit in 140(13.9%) patients. 562 (56%) patients had diseases of anorectum, while 383 (38.1%) patients had diseases confined to rectum, sigmoid colon and descending colon. 342 (34.1%) patients were offered some kind of therapeutic maneuver during or soon after sigmoidoscopic examination.

Table 1:Spectrum of diseases of Anorectum during Sigmoidoscopic examination (n = 562/1004).

Diseases of Anorectum	Frequency%
Internal hemorrhoids	481 (85.6%)
Anal fissure	35 (6.2%)
Tight sphincter, without visible fissure	22 (3.9%)
External hemorrhoids	12 (2.1%)
Anal stenosis	4(0.7%)
Fibrotic patch at anorectal junction	3 (0.5%)
Anal skin tags	3 (0.5%)
Foreign body	1 (0.2%)
Perineal tear, 3rd degree	1 (0.2%)

Table 2: Spectrum of diseases of rectosigmoid and descending colon during Sigmoidoscopic examination (n = 383/1004)

Diseases of Rectum, Sigmoid & descending Colon	Frequency
Ulcerative colitis	117(30.5%)
Benign polyps	71 (18.5%)
Discrete ulcerations/ Non-specific colitis	50 (13.1%)
Malignant growth/ ulcer	20 (5.2%)
Excessive mucous, as isolated finding	20 (5.2%)
Benign stricture At recto-ileal anastomosis Diverticular Idiopathic	19 (5%) 13 3 3
Solitary rectal ulcer	16 (4.2%)
Adjacent/Stagnant proctitis	11 (2.9%)
Ectopic Varix Rectal Splenic flexure	9 (2.3%) 8 1
Vascular malformations	8 (2.1%)
Diverticular disease	8 (2.1%)
Proctitis with visible pus/Infectious proctitis	7 (1.8%)
Impacted stools/ Spurious diarrhea	7 (1.8%)
Portal Hypertensive colopathy	5 (1.3%)
Familial Adenomatous Polyposis	4 (1.0%)
Miscellaneous Pouchitis Rectal prolapse Hook worms Obscure GI bleed Leiomyoma Segmental colitis Diversion proctitis Dieulafoy type colonic ulcerations	11 (2.9%) 2 2 2 1 1 1 1 1

Amongst diseases of anorectum, the most common one was internal hemorrhoids (seen in 85.6% patients). Other diseases were anal fissure (6.2%), tight sphincter, without visible fissure (3.9%), external hemorrhoids (2.1%), fibrotic patch at anorectal junction (0.5%), anal skin tags (0.5%), foreign body (0.2%) &perineal tear, 3rd degree (0.2%) (Table 1)

Amongst diseases of rectosigmoid and descending colon, the most common was ulcerative colitis (seen in 30.5% patients) followed by Benign polyps (18.5%), discrete ulcerations (13.1%), Malignant growth/ ulcer (5.2%), Excessive mucous, as isolated finding (5.2%), benign stricture (5%), Solitary rectal ulcer (4.2%), adjacent / Stagnant proctitis (2.9%), ectopic varix (2.3%), Vascular malformations (2.1%), Diverticular disease (2.1%), Proctitis

with visible pus/Infectious proctitis (1.8%), Impacted stools (1.8%), portal hypertensive colopathy (1.3%), and Familial Adenomatous Polyposis (1.1%). 2.9 % patients had miscellaneous diseases including Pouchitis, Rectal prolapse, Hook worms, Obscure GI bleed, Leiomyoma, Segmental colitis, Diversion proctitis, and Dieulafoy type colonic ulcerations (Table 2).

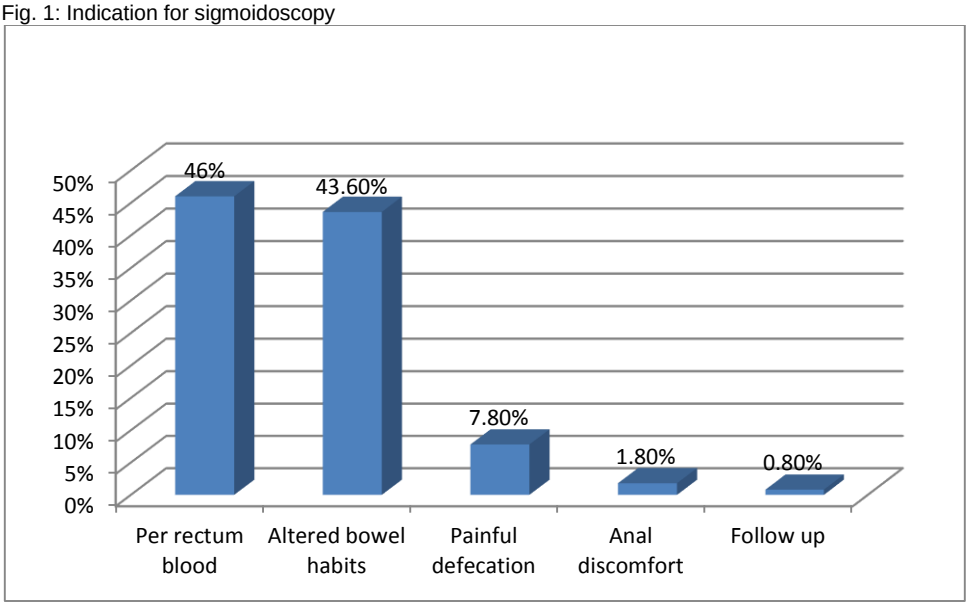
The most common therapeutic maneuver performed using sigmoidoscope was hemorrhoidal band ligation (56.1%). Other maneuvers performed were MDA (15.8%), MDA plus Hemorrhoidal Band ligation (1.4%), Polypectomy (15.5%), Stricture dilatation with TTS balloon (5.8%), Manual evacuation of impacted stool (2%), Electrocoagulation (1.8%), Triamcinolone acetonide injection into fibrotic patch at anorectal junction (0.9%), Foreign body retrieval (0.3%), and Leiomyoma resection (0.3%) (Table 3)

Table 3:Therapeutic maneuver performed during/ after Sigmoidoscopic examination (n = 342/1004).

Diseases on sigmoidoscopic examination	Frequency%
Hemorrhoidal Band ligation	192 (56.10%)
MDA	54 (15.8%)
MDA plus Hemorrhoidal Band ligation	5 (1.4%)
Polypectomy	53(15.5%)
Stricture dilatation with TTS balloon	20 (5.8%)
Manual evacuation of Impacted stool	7 (2%)
Electrocoagulation of: Vascular malformations Dieulafoy type colonic ulcerations	 5 (1.5%) 1 (0.3%)
Inj. Triamcinolone into fibrotic patch at anorectal junction	3 (0.9%)
Foreign body retrieval	1 (0.3%)
Leiomyoma resection	1 (0.3%)

MDA = Manual dilation of anus; TTS = Through the scope

Fig. 1: Indication for sigmoidoscopy



DISCUSSION

Sigmoidoscopy is a simple and useful diagnostic as well as therapeutic tool for distal portion of digestive tract.In a large study in Ireland[16] on symptomatic patients who underwent sigmoidoscopy, female participants were a little bit more than males (50.6% vs 49.4%). In our study, males were 70.4% (707 out of 1004). Inspite of anorectal and lower GI symptoms, females deny lower GI procedure in our population. On the other hand, our study showed that 34.1% patients got benefit from some kind of therapeutic maneuver during/ following sigmoidoscopy. So, symptomatic females should be encouraged to benefit from sigmoidoscopic procedure.

In our study, two major presenting complaints were bleeding PR (46%) and ABH (45.1%). In the western population study[16],the same two presenting complaints, bleeding PR (52.4%) and ABH (53.7%) were the most common indications of referral for sigmoidoscopy.

Despite symptoms, one third of patients (31.7%) did not show any abnormality on sigmoidoscopic examination in Western study[15], whereas only 13.9% patients had normal sigmoidoscopy in our study, hence it is predictive of better utilization of sigmoidoscope, as an investigation tool, in our population.Secondly, amongst those 140(13.9%) patients with normal sigmoidoscopic findings, 125 presented with ABH and 15 with anal discomfort/ pain. These last all 15 patients were young females, who can be diagnosed as suffering from unexplained anal pain.The unexplained anal pain is a term used when no anatomic pathology is found in a patient with anal pain[6].Its common etiologies include coccygodynia, proctalgia fugax etc. Last one is cyclic pain that typically affects young females and is managed with Sitz bath, NSAIDs±antidepressants[6].

In our study, the commonest diagnosis was internal hemorrhoids (47.9%). Similar finding was published by Current Gastroenterology reports in 2014[17]. However, in a large study from Ireland[13], the commonest diagnosis was diverticular disease, which lies at the bottom of the list of

diagnoses in our study (only 0.8%). It means diverticular disease which is more prevalent in western population, is very uncommon in our population.

In our study, hemorrhoidal band ligation was the major therapeutic maneuver performed with flexible sigmoidoscopy, while in literature; polypectomy was always the most common one[18].This may be due to higher prevalence of hemorrhoids in our people. The second most common therapeutic maneuver performed in our study was MDA for visible anal fissure, painful defecation plus tight sphincter, and anal stenosis. Anal stenosis occurs after 5% to 10% hemorrhoidectomies[6].Anal fissure is a small tear of anoderm. Its medical management includes stool softeners, Sitz baths, Glyceryl trinitrate (GTN) ointment. However gold standard for chronic anal fissure is surgical sphincterotomy with a low recurrence rate of 0% to 10%. Anal dilation (Lord's procedure) is associated with high incidence of post-procedure fecal / flatus incontinence[12]. Literatures suggest that with gentle dilation in experienced hands, incontinence is not seen[13,14].In our patients, where 59 patients underwent MDA, symptomatic improvement was seen in all patients without any post-procedure fecal/ flatus incontinence. Further larger studies are required to validate these findings.

CONCLUSION

In conclusion, bleeding PR and ABH were the most common presenting complaints in our patients who underwent Sigmoidoscopy. The most common diseasesfound during sigmoidoscopic examination in our population are internal hemorrhoids and anal fissure in the area of anorectum, and ulcerative colitis and benign polyps in rectosigmoid and descending colon. Among which three diseases are satisfactorily managed in endoscopy suitewith hemorrhoidal band ligation, MDA and polypectomy respectively at the same visit.

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