

Pattern of anorectal diseases in surgical practice in Omdurman Teaching Hospital, Sudan

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Abstract: Anorectal diseases are very common and mostly benign disorders, its prevalence in the general population has been difficult to establish. The objective was to study the pattern of anorectal conditions, clinical presentations and type of treatment received. This is a prospective, case findings and hospital-based study. Conducted at Omdurman teaching hospital, over a period of six months (Oct. 2015–Apr. 2016). All patients with anorectal conditions presented and managed at our hospital were included. Excluded were patients less than 18 years old or traumatic anorectal conditions. The study included 107 patients with anal conditions. The mean age was 38.6 ± 13.7 years. Most of the patients 84(78.5%) were in their third to fifth decade of life. The common triad of symptoms in more than 72% of our patients was; anal pain, constipation and difficulty in passing stool. Most of our patients 66 (61.7%) were cases of haemorrhoids; however anal fissure (AF) and fistula-in-ano (FIA) were seen in 14.0% and 10.3% respectively. Most of patients with haemorrhoids 72.7% were either (second degree in 25.8% or third degree in 46.9%). Ninety one percent of the cases of FIA were the low type. The great majority of AF 14 (93.3%) were acute type and posteriorly located in 13 (86.7%) of the patients. Most of the patients 73(68.2%) with anal conditions were treated surgically. The number of patients with AF or haemorrhoids treated surgically were 13(86.7%) and 38(57.6%) respectively. Haemorrhoidectomy; (47.4% ligature, 36.8% closed and 15.8% open). Two third of the patients with FIA treated surgically had fistulectomy. Lateral internal anal sphincterotomy, was the commonest procedure 69% done for patients with AF. No mortality was encountered during this study, but complications were seen in 4(6.1%) of the surgically treated patients and all were cases of intractable postoperative pain. The mean length of hospital stay for the operated patients was 1.2 ± 0.4 days and most of the patients 57 (86.4%) were discharged home in 24 hours or less. This includes (87.2% haemorrhoids, 90% FIA and 100% AF). In conclusion haemorrhoids, FIA and AF were the three common anal diseases encountered in this sequence in our country.

Keywords: anorectal conditions, anal fissure, fistula-in-ano, haemorrhoids, pattern

INTRODUCTION

The commonest anorectal lesions include; haemorrhoids, anal fissures, anal fistula, abscesses, polyps, rectal Prolapse, anal skin tags and anorectal sepsis [1]. Haemorrhoidal disease is a very common and widespread disease, and it is estimated that about one subject out of three may suffer from this pathology [2]. Haemorrhoids occur frequently in the adult general population. Between 2008 and 2009, consecutive patients were included in a prospective study. They attended the Austrian national wide health care program for colorectal cancer screening at four medical institutions. Of 976 participants, 380 patients (38.93%) suffered from haemorrhoids [3]. The incidence of FIA varied among the different populations in the EU. it ranged from 1.04 per 10,000/year in Spain to 2.32 per 10,000/year in Italy [4]. AF is one of the most frequent and painful anal diseases and its clinical management is still controversial despite several

systematic reviews. The lifetime incidence is calculated to be 11% [5, 6].

PATIENTS AND METHODS

This is a prospective, case findings and hospital-based study. It was conducted at Omdurman teaching hospital, over a period of six months (October 2015 - April 2016). All patients with anorectal conditions presented and managed and consented were included in the study. Excluded were patients less than 18 years old, with traumatic anorectal conditions refused to participate in the study. The study variables were; gender, age, clinical presentation, diagnosis, treatment done, duration of hospital stay and outcome of management. The data was analyzed using SPSS version 20.

RESULTS**Patient demographic**

The study included 107 patients with anal conditions, admitted and treated at Omdurman Teaching Hospital during the study period. The mean age was 38.6±13.7 years and it ranged from 17-76 years. Most

of the patients 84(78.5%) were in their third to fifth decade of life, whereas 13(12.1%) at the extremes of age (5.6% less than 20 and 6.5% more than 60 years). Two third of our patients were males and male to female ratio was 1.9:1(**Table 1**)

Table-1: Age distribution of the study population (n=107)

Age (years)	Gender		Total
	Male	Female	
<20	05(04.7%)	01(0.9%)	06(05.6%)
21-30	20(18.7%)	12(11.2%)	32(29.9%)
31-40	19(17.8%)	10(09.3%)	29(27.1%)
41-50	15(14.0%)	08(07.5%)	23(21.5%)
51-60	05(04.7%)	05(04.7%)	10(09.3%)
>60	06(05.6%)	01(0.9%)	07(06.5%)
Total	70(65.4%)	37(34.6%)	107(100.0%)

P value 0.654

House wives, workers and free business patients forms the majority of our patients in 29%, 28% and 21.5% respectively. However students and employees were only 21.5%. Most of our patients 72(67.3%) were married and one third were single or divorced.

Symptoms of anal conditions

The common triad of symptoms in patients

with surgical anal conditions, which is seen in more than 72% of our patients, was; anal pain, constipation and difficulty in passing stool; seen in 86.9%, 78.5% and 72% respectively. Bleeding per rectum, prolapse and history of similar condition were seen in more than 50% of our patients. Less frequent were weight loss, pus discharge per rectum or anal incontinence in less than 18% (**Table 2**).

Table-2: Distribution of the study sample according to symptoms

Symptoms	Frequency	Percent
Anal pain	93	86.9
Constipation	84	78.5
Difficulty in passing stool	77	72.0
Rectal bleeding	61	57.0
Prolapsed	57	53.3
History of similar condition	57	53.3
Anal itching	50	46.7
Wight loss	19	17.8
Pus discharge	17	15.9
Incontinence	04	03.7

Pattern of surgical anal conditions

Most of our patients 66 (61.7%) were cases of haemorrhoids; however anal fissure and fistula-in-ano were seen in 14.0% and 10.3% respectively. Perianal abscess was the diagnosis in 7 (6.5%) of the admitted patients with anal condition. The remaining 07.5% represent; pruritisani, anal stenosis, carcinoma rectum and anal skin tag.

Haemorrhoids

All patients with haemorrhoids were diagnosed by inspection of the perineum, digital rectal examination and proctoscopy. The mean age was 39.2±14.9 years and most of them 48/66 (72.7%) were in the age range (21-50 years). Patients below 20 or above 60 years were 7.6% in each group. Two third of

patients were males and 25 (37.9%) were females. Most of them 72.7% were either (second degree in 25.8% or third degree in 46.9%), on the other hand first and fourth degree haemorrhoids were seen only in 27.3% (12.1% vs. 15.2%).

Fistula-in-ano

The mean age was 40.9±6.1 years and males patients outnumbered females with M:F ratio of 9:2. Seven (63.6%) in the age group 31-40 years. Ninety one percent of the cases of fistula-in-ano were the low type and the high type represents only 9.1%. Fistulae with the external opening located anterior to the meridian line were 06 (54.5%). The single case of high FIA was located posteriorly. The majority 10 (90.9%) were simple FIA (**Table 3**).

Table-3: External opening and types of fistula-in-ano in the study

External opening		Type of FIA		Total
		Low	High	
	Anterior	6(54.5%)	0(0.0%)	6(54.5%)
	Posterior	4(36.4%)	1(9.1%)	5(45.5%)
Total		10(90.9%)	1(9.1%)	11(100.0%)

P value 0.251

Anal fissure

The mean age was 32.9±9.9 years and males to females ratio was 1.5:1. The great majority of anal fissures 14 (93.3%) were acute type of less than six weeks duration with a single 6.7% chronic case with sentinel pile. Posterior location was seen in 13(86.7%). The posterior location was seen in six male patients and 08(88.9%) of the females.

Treatment

Most of the patients 73(68.2%) with anal conditions were treated surgically, whereas 34(30.7%) were managed conservatively. All patients with FIA or abscess complicating FIA were treated surgically. The number of patients with anal fissure or haemorrhoids treated surgically were 13(86.7%) and 38(57.6%) respectively (**Table 4**).

Table-4: Surgical and conservative management of patient with anal condition in the study

Diagnosis	Treatment		Total
	Surgical	Conservative	
Haemorrhoids	38(57.6%)	28(42.4%)	66
Fistula-in-ano	11(100.0%)	0.0 (0.0%)	11
Anal fissure	13(86.7%)	02(13.3%)	15
Perianal abscess	07(100.0%)	0.0 (00.0%)	07
Others	04(50.0%)	04(50.0%)	08
Total	73(68.2%)	34(30.7%)	107(100.0%)

Of the 38 patients treated surgically for symptomatic haemorrhoids; the majority 18(47.4%) underwent ligature haemorrhoidectomy. However

closed (14; 36.8%) is more than open (06; 15.8%) haemorrhoidectomy (**Table 5**).

Table-5: Surgical treatment of anal conditions in the study

Surgical treatment	Frequency	Percent
Haemorrhoidectomy (n=38)		
Ligasure	18	47.4%
Closed	14	36.8%
Open	06	15.8%
Fistula-in-ano (n=11)		
Fistulotomy	03	27.3
Fistulectomy	07	63.6
Seton	01	09.1
Anal fissure (n=13)		
Anal dilatation	04	30.8
Lateral internal anal sphincterotomy	09	69.2
Perianal abscess complicating FIA (n=7)	07	100
Others (n=4)	04	100

Two third of the patients with FIA treated surgically had Fistulectomy, whereas Fistulotomy and cutting Seton were done to 27.3% and 9.1% correspondingly. Lateral internal anal sphincterotomy, was the commonest procedure 69% done for patients with chronic anal fissure, however, anal dilatation was practice in 30.8% (**Table 5**).

Outcome

No mortality was in countered during this

study, but complications were seen in 4(6.1%) of the surgically treated patients and all were cases of intractable postoperative pain. The rest of the patients were discharged uneventfully. The mean length of hospital stay for the operated patients was 1.2±0.4 days and most of the patients 57 (86.4%) were discharged home in 24 hours or less. This includes (87.2% haemorrhoids, 90% FIA and 100% AF), and only 9(13.6%) stayed more than one day.

DISCUSSION

In our study males were predominate with males to females ratio of 1.9:1, this is similar to the findings in other studies with ratios of 1.2:1 [7] and 2.5:1 [8] and this is possibly due to introversion of females. Most of our patients 84(78.5%) were in their third to fifth decade of life, whereas in other study the commonest age groups treated were in the first, third and fourth decades of life. And this is due to inclusion of their pediatric cases [7]. In a similar study the third and fourth decades were the commonest [8].

Among the anorectal symptoms in this study, the most common four were, anal pain, constipation, difficulty in passing stool and bleeding per rectum. However, bleeding, anal pain, constipation and presence of swelling or lump in or around the anus, were the commonest reported symptoms in other study [8].

Pattern of surgical anal conditions

Digital rectal examination and proctoscopy reveals 99.1% of the cases to be benign and 0.9% malignant, similar to 98.6% cases of benign and 1.4% malignant condition in H Sakar study [8]. The commonest conditions treated were haemorrhoids, anal fissure and fistula-in-ano, as seen in 86% of our patients and haemorrhoids rank first with 61.7%. This pattern is similarly reported in University of Port Harcourt Teaching Hospital [7] and Rajshahi Medical College Hospital and private chamber from (2006 to 2009) [8] and his internal haemorrhoids account for 60.2%. However in a recent study in Nigeria, the pattern in decreasing order is haemorrhoids, carcinoma of the rectum, anorectal fistulae and anal fissures [9].

Classification of internal haemorrhoids has four degrees. In the first degree, the haemorrhoids bleed but do not prolapse. Second degree internal haemorrhoids prolapse but spontaneously reduce. Third-degree haemorrhoids prolapse and require manual reduction, and fourth-degree haemorrhoids prolapse but cannot be reduced [10-12]. The mean age was 39.2±14.9 years. Most of our patients with haemorrhoids 72.7%, were in the age range (21-50 years) and 62.1% of them were males. Our age and male gender preponderance were comparable to Mohammed Islam *et al.* study in Pakistan [2], Rania *et al.*, Sudan [13] and Isra *et al.*, Sudan [14]. Most of our haemorrhoids patients (72.7%) were either second or third degree, however in a comparable studies they were 42.4% (8) and 66% [13]. This might be attributed to the late presentation or failure of conservative measures in our study.

The majority 10 (90.9%) of our FIA were simple. Simple includes a fistula tract that crosses less than 30% to 50% of the external sphincter, is not anterior in women, has only 1 tract, is not recurrent, and is present in a patient with perfect continence. In addition, the patient should not carry a diagnosis of

Crohn's disease or have received pelvic radiation for the fistula to be considered simple [15].

An anal fissure (AF) is a cut or split in the epithelial lining of the anal canal distal to the dentate line. A chronic anal fissure is usually categorized when the fissure fails to heal within 6-8 weeks [11]. The diagnosis is based on the presence of intense pain, with possible bleeding, during or after defecation and is confirmed by a careful inspection of the posterior commissure of the anus [5]. Our mean age in this group was 32.9±9.9 years and males to females' ratio was 1.5:1. However, in G. Garcea, *et al.* study in Leicester General Hospital, UK, the male to female ratio was 1:1 and the mean age was 43.1 years [16] and in another study more women (N=721, 58% of cohort) were diagnosed with AF than men [6]. The most common location for primary AF (where there is no obvious trigger) is the posterior anal midline. This may be anatomically related as there is lack of tissue support posteriorly within the anal canal [17]. Only 10% of females and 1% of males have a fissure located in the anterior midline [11, 16, 18-20]. This simulate our findings were the posterior location was seen in 13 (86.7%) in all of our six males and 08(88.9%) females. No single of secondary AF was reported in our series. Secondary fissures are encountered in Crohn's disease, leukaemia, agranulocytosis, infections (HIV, TBC, syphilis), cancer, chemotherapy and after traumatic injuries [21].

Conservative management of patient with anal condition

Most of anorectal cases can be treated by conservative medical treatment (e.g., dietary changes, sitz'baths, analgesics, antibiotics, stool softeners, haemorrhoidal creams and suppositories) or nonsurgical procedures [1]. Conservative measures may prevent the need for any surgical intervention, or delay its timing in patients with haemorrhoids [22].

An acute AF may heal spontaneously or in response to medical therapy with warm baths, stool softeners, bulk laxatives, analgesics, topical anaesthetics and reassurance [17]. It is important to emphasize that, in the case of acute anal fissures, conservative treatment can provide a cure in 87% of the cases, while in chronic forms this figure is 50% [5]. Only two of our cases (13.3%) of anal fissure were treated conservatively, using lignocaine, bran and sitz's baths. Medical therapy or chemical sphincterotomy as glyceryl trinitrate (GTN), botulinum toxin (Botox) or calcium channel blockers (CCBs), were not used. In a meta-analysis of randomized, controlled trials to assess the efficacy and morbidity of medical therapies for anal fissure, they were far less effective than surgery. Because of their marginal chance of cure, might therefore be used in individuals wanting to avoid surgical therapy or reserved for treatment failures. Late recurrence after medical therapy is common [23].

Surgical treatment of anal conditions in the study

Ligasure haemorrhoidectomy, lateral internal sphincterotomy and fistulotomy/fistulectomy were the main procedures performed in our study. And this in accord with Adotey JM, retrospective study (1998 to 2002) [7], but using open rather than ligasure haemorrhoidectomy as the latter procedure was recently introduced. Surgery is considered to be the best therapeutic treatment for advanced haemorrhoidal disease [2].

The great majority (90.1%) of our patients with FIA were simple and a single case of complex high type. Most of these patients 63.6 % (7/11) were treated with fistulectomy. With 27.3% (3/11) managed by fistulotomy (opening of the fistula tract). There is no single technique appropriate for the treatment of all fistulas-in-ano and, therefore, treatment must be directed by the surgeon's experience and judgment. The goals in the treatment are to eliminate the septic foci and any associated epithelialized tracks, and to do so with the least amount of functional derangement [24]. The complex high type was managed initially using Seton as part of two stage fistulotomy. In this case fibrin glue injection was not available and mucosal advancement flap was not attempted.

Most of the patients 69.2% (9/13) with chronic AF treated surgically in our series had partial lateral internal anal sphincterotomy (LIAS). This procedure is considered as the 'gold standard' therapy and first-line treatment for chronic AF. Healing is achieved in 90% of cases; however, sphincterotomy also carries a significant risk of incontinence which can be reduced with more conservative sphincterotomy [1, 16, 18]. LIAS involves incising the internal anal sphincter through the skin of the lateral aspect of the anus, away from the anterior and posterior midline to reduce sphincter tone [19]. Operative sphincterotomy are effective, as overcoming spasm of the internal sphincter improves blood supply to this ischemic ulcer, leading to relief of symptoms and healing in the majority of cases [25].

Our rate of hospital stay as day case or 24 hours was 100% for AF as compared to 91% in other study [16]. No mortality was reported in the present study. Other study reports a rate of 1.4% [7].

CONCLUSION

Haemorrhoids, anal fissure and fistula-in-ano, were the common anorectal conditions. The common triad of symptoms was anal pain, constipation and difficulty in passing stool. Most of the patients were treated surgically, ligature haemorrhoidectomy, fistulectomy and lateral internal anal sphincterotomy, were the commonest procedures done and were carried as day case surgery. No mortality and few complications were seen in the surgically treated patients.

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