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Surgical Management of Patients with Hemorrhoids and Anal Fissures from Kirkuk Province in Iraq

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ABSTRACT

Background: : Hemorrhoids and anal fissures are common benign conditions of the anorectal area that significantly impact patients ' lives . Most complex cases of anorectal disease are referred to colorectal surgeons. Knowledge of these pathological processes is essential for appropriate treatment and monitoring. Hemorrhoids and fissures often respond to conservative treatment, but they may also require surgical intervention. It is necessary to take into account the occurrence of hemorrhoids and anal fissures.

Patients and Methods: In this study, we report our data on the medical and surgical treatment of hemorrhoids and anal fissures among 1200 Iraqi patients, treated either medically or surgically according to the diagnosis hemorrhoids or anal fissures over a two-year period (2021-2022).

Results: Among the 1200 patient, 630 (52.5%) were treated for hemorrhoids, 370 patients had combined hemorrhoids and anal fissures. The rest 200 (16.7%) patients suffered from uncomplicated fissures. Investigating the grades of hemorrhoids revealed that a higher percentage of patients had grade I followed by grade II (58.5% and 34.6%) respectively. Internal hemorrhoids reported in 400 patients (33.3%) and external hemorrhoids in 200 patients (16.7%) while mixed in 600 (50%) patients. The picture of postoperative complications among patients showed that 34.3% of them had done well without any delay.

Conclusion: Medical and surgical management can be associated with potential complications of different severity. However, surgery should be considered in highly selected cases, therefore, definitive conclusion cannot yet be drawn, taking into account that spontaneous healing can also occur. Hence, we recommend further future studies, particularly clinical trials to establish the effectiveness of surgical approach providing therapeutic recommendations and guidelines for more assessment and precise conclusions

Keywords: Hemorrhoids, Anal fissures, Surgery, Management, Internal and External Hemorrhoids

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INTRODUCTION:

Hemorrhoids and anal fissures are the most common diseases of the distal colon (rectum and anal canal) . According to literature, hemorrhoids rank first among diseases of the rectum and colon in the adult population. Hemorrhoids can affect both genders at any age and globally, the prevalence of hemorrhoid in the general population ranged between 13% to 40% [1,2]. In recent years, thanks to the development of new medical technologies, minimally invasive outpatient hemorrhoid treatments have become increasingly common. In most countries, conventional hemorrhoidectomy is currently performed only in some patients, while minimally invasive techniques are used in the rest [3]. Hemorrhoidectomy remains the most common gold standard surgical intervention for treatment of hemorrhoids, in their severe, advanced or recurrent forms. However, surgery, including in outpatient and day hospital settings. Nonetheless, many surgeons believe that radical hemorrhoid removal surgery is indicated only for a small proportion of patients, where less than 20% require surgery. Thus, the choice of hemorrhoid treatment method remains open to date [4]. Anal fissures are lesions located in the lower anal canal localized in the wall of the anal canal, the upper border of which is usually defined by the dentate line, and the lower border is determined at the level of the anus. It causes severe suffering to patients, characterized by the presence of burning, excruciating, prolonged pain in the anal canal and spasm of the anal sphincter. Prolonged pain caused by anal fissures has proven to be associated with high morbidity of depression and anxiety, in patients with chronic anal fissure with poor quality of life and affect the sexual activity of the patients [5]. The severe spasm and pain are exacerbated during defecation and many patients with anal fissures usually have constipation. On the other hand, many patients with anal fissures usually try in every possible way to delay defecation, which, in turn, causes stool compaction. The shearing force of hard stool further aggravates pain and trigger the sphincter spasm. This spasm narrows the anal outlet and further increases the shearing force, these inter-correlated processes creating a vicious cycle of hard stool - pain - reflex spasm - fissure tearing – stool compaction – hard stool - and so on [6–9]. Constipation and prolonged straining are widely believed to cause hemorrhoids, as hard stool and increased intra-

abdominal pressure can cause obstruction of venous outflow, leading to plethora of the hemorrhoidal plexus [10–13]

According to many authors, the proportion of patients with two or three rectal diseases is significant, and there is a tendency for this number to increase. Diagnosis, differential diagnosis, and the choice of treatment method for combined rectal diseases are a complex and still not fully resolved problem. In the surgical treatment of combined rectal diseases, the question arises: should the surgical intervention be divided into two stages or should surgical correction of the combined pathology be performed simultaneously. Issues of surgical treatment of hemorrhoids combined with anal fissure, their immediate and long-term results, and possible complications remain relevant today, which requires a special approach to the choice of surgical treatment method for this combined pathology.

Hemorrhoids are swollen blood vessels in the lower rectum. They are one of the most common causes of anal pathology [14], and subsequently, almost any anorectal complaints from both patients and healthcare professionals. Although hemorrhoids are a common condition diagnosed in clinical practice, many patients are too embarrassed to seek treatment. Therefore, the true prevalence of pathological hemorrhoids is unknown [15]. They affect million people worldwide and represent a serious medical and socio-economic problem. It is argued that the factors in the etiology of hemorrhoid development are constipation and prolonged straining. Abnormal dilation and deformation of the vascular bed together with destructive changes in the supporting connective tissue within the anal pad is the most important sign of hemorrhoidal disease [10]. Although hemorrhoids are recognized as a very common cause of rectal bleeding and anal discomfort, the true epidemiology of this disease is unknown [4]. Epidemiological study Johansson and Sonnenberg [11]. Hemorrhoids diagnosed accurately requires taking a detailed patient's history and conducting a thorough clinical examination including digital rectal examination and anoscopy with patients positioned on the left lateral position [16]. Most cases of hemorrhoids resolve spontaneously or with conservative medical therapy alone. However, complications may include thrombosis, secondary infection, ulceration, abscess and incontinence. The recurrence rate with non-surgical methods is (10-15%) over 5 years period, while with surgical hemorrhoidectomy it is less (5%) [17]. Although The prevalence of anal fissure in the general population is difficult to

estimate, anal fissures seem more common than in unsusceptible individuals (up to one in five people develops acute or chronic fissure throughout life [18,19]. Anal fissures are more common than hemorrhoids and are often associated with other perianal pathologies [20]; during the observation period of 26 years, a 35% incidence of anal cracks, with a frequency of 59% also reported [21]. In contrast to the general population, Aberrant positions are common; multiple and lateral cracks were noted in 32-38% and 9- 20% of patients respectively [15,16]. It is thought that anal fissure occurs via direct trauma during defecation with the passage of hard stools or diarrhea. It has been proposed that 25% of patients with anal fissure also have chronic constipation [22,23] [15,16]. Numerous studies have addressed the contributing factor of these conditions, yet the results remain controversial. The objectives of the presnt study is to assess the diagnotic approach the medical and surgical treatment of hemorrhoids and anal fishers.

PATIENTS AND METHODS:

A total of 1200 patients were enrolled in the study during the years (2021 and 2022). Patients with anal surgical conditions were elected from private clinics.

Clinical examination: patients with comorbidities are referred to their private doctors for a preoperative evaluation and modification of their treatment especially. One clear finding is that 90% of our patients with hemorrhoids and fissure showed duodenitis or duodenal ulcer and irritable bowel syndrome, the direct cause of hemorrhoids and fissure was attacks of constipation that caused straining and produced injury to the anal mucosa forming anal fissure, or recurrent congestion of the hemorroidal plexuses predisposing to hemorrhoid are taking steroids those who are on immunosuppressive drugs and those who have renal failure or liver failure.

Local examination:

It was done by inspecting the skin looking for thickened skin due to chronic itching or moist masserrated skin due to secondary fungal infection, while in some patients it is red and tender due to bacterial infection secondary to the discharge that comes from the fissure or from the hemorrhoids from time to time. Others coming with dark blue tendon swelling which can be an external thrombosed pile patient may have tenderness due to an abscess or a fistula tract.

Per rectum (PR) finger examination is important to assess the primary evaluation of the anal canal and lower rectum especially looking for painful areas at 6 or 13 o'clock mainly, or of infected areas, or painless swellings that may be a tumour. PR examination is sometimes followed by anoscopy or by colonscopy when it is important to show the interior of the anal canal, rectum and more proximally, a biopsy may be taken when a tumour is suspected or another diagnosis is suspected. Barium enema, CT, or MRI, or the patient may be referred to an oncologist from the start.

Laboratory tests:

Every patient has to have a CBC, Hepatitis B & C, and HIV tests. If a young adult patient is having a low hemoglobin level and a bleeding per rectum, operation is done then the patient is referred for blood transfusion, while in geriatric, <<?flail?>> , tired patients the opposite is done to stabilize these patient preoperatively.

Because "Calprotectin test" is really positive and a preoperative diagnosis of ulcerative colitis is not so important in patients having a need for surgical management of their hemorrhoids and fissures this test is kept for those who will still complain postoperatively. Only two patients from this series were found to have ulcerative colitis, they responded well to Pentasa 500mg tablets 1×2 with milk free diet.

Patients with perianal abscesses and fistulae where excluded from this study.

Management protocol:

Medical management for those patients who are not ready to undergo cauterization. They are kept on a ceftriaxone & flagyl. or garamycin & flagyl depending on the patient drug sensitivity. Pilex tablet have been given when a patient had bleeding per rectum

Plain Lidocaine (2%) local anesthesia 20cc was used around the anal very superficially and on deep on the upper end of the anal sphincter

Lord dilatation was done and then the button was used to coagulate each every hemorrhoid when they are having spaces of normal mucosa in between to prevent post-operative fibrosis & stenosis. When the hemorrhoids are so many few were left behind of or a mater session. The same rule is used for external hemorrhoid.

When a fissure is the problem, the penfnes& base are cauterized. A pile or a fissure need only few seconds to be complete. The operation filed is bloodless from the start to the end. A small piece of gauze soacked in 5% lidocaine solution was left in the area.

During the operation

1. Normal saline fluid was given to those with blood pressure below 120/80mmHg to avoid hypotension.
2. Paracetol vials 100ml was given during the operation.

Postoperative management and follow-up

1. Acupan amp 2ml was sometime needed for those who complain of postoperative pain.
2. Ceftriaxone & Flagyl OR Garamycin & Flagyl was given 5 days postoperative accordingly, depending on the presence of drug allergy.
3. Fluid diet was advised for those with bleeding hemorrhoids for 3 days.
4. Patients were instructed to avoid straining , water enema administration and avoiding high fiber diet.
5. Ompin-D was prescribed for all patients with signs & symptoms of duodenitis.
6. Patients were followed up at scheduled clinic visits and instructed to return immediately if any complications developed

Statistical analysis and data management:

Data of all patients were first reviewed for accuracy, completeness, any error or inconsistency and then entered into a computerized database using Microsoft Excel software. Data then transferred to statistical program; the statistical package for social sciences (SPSS) and the required tables were conducted. All variables presented as frequencies and percentages.

RESULTS:

A total of 1200 patients with hemorrhoids and/ or anal fissures were enrolled in this study. The number of patients with hemorrhoids only was 630 (52.3%), while the number of those who had both hemorrhoids and anal fissures was 370 (30.8%), however, 200 (16.7%) patients showed uncomplicated fissures, (**Table 1**). Most of our patients were males, 1090/1200, contributed for (90.8%) , while only 9.1% were females, with a male to female ratio of almost 10:1. The age ranged between 15-80 years for all patients (**Table 2**).

Regarding the comorbidities/ chronic diseases that reported among the 1200 patients, 288 (24%) had heart diseases, they were given aspirin and it was stopped 7 days before operation. Diabetes mellitus reported in 253 (21.1%) patients and 35 (2.9%) had hypertension, the medical treatment in both diabetic and hypertensive patients was not changed after operation. On the other hand, two patients (0.2%) had ulcerative colitis and they already treated with Mesalazine (Pentasa) 500 mg tablet twice/ day, as shown in (**Table 2**).

External hemorrhoids were found in 200 (16.7%) patients, internal hemorrhoids in 400 (33.3%) and mixed hemorrhoids was found in 600 (50%) cases. The grading of hemorrhoids revealed that 52.5% had grade I and 34.6% of grade II. Less frequently, only 4.6% of the patients had grade III and 8.2% had grade IV, (**Table 3**).

The pre-operative laboratory investigations were performed and requested for all patients. Results of these investigations showed that 920 (76.7%) patients had a hemoglobin level between 6-15 gm/dL, to those patients, iron supplement was added to their post-operative treatment. The remaining 280 patients (23.3%) had a hemoglobin level of less than 6 gm/dL and they received blood transfusion before or after operation depending on the state of hematochezia. Unfortunately, 10 patients (0.8%) were hepatitis B positive, however, the operations for those cases were performed with special care and precautions. None of our patients was HIV positive (**Table** 4). It is worth mentioning that female patients used to consult female doctors rather than male doctors for consultation due to some social and cultural believe of Iraqi society. Regarding the postoperative complications, among the 1200 cases, 412 (34.3%) patients did well with no delaying factor. The reported complications included pain in 408 cases (34%), to whom we prescribed extra intravenous paracetamol vial, however, among these 408 patients with pain, 191 (46.8%), needed two finger dilatation during first postoperative visit at the end of first week but one male patient could not tolerate this dilatation and we used local lidocaine injections to complete the dilatation procedure. All patients (100%) suffered from oozing and bleeding, however, to control and stop bleeding, some patients needed gauze pads, some required cautery while some other cases needed ligation to stop bleeding. Itching sensation reported in 120 (10%) of patients, and to relief their complaint, two finger dilatation was done. One patient suffered from adenocarcinoma and biopsy was performed to confirm the diagnosis. Retention of urine (only male patients, >60

years), however, thirty patients needed urinary catheterization where Foley catheter was inserted. Among the studied group, 244 (20.3%) suffered back pain 1-3 months post-operatively. Proctalgia fugax disease coexisted with hemorrhoids in three patients and was not changed post-operatively. Two males suffered anal pain and tenesmus, for them we performed calprotectin in stool to show positive results. None of the patients had incontinence of flatus or feces (**Table 5**).

Table 1. Distribution of hemorrhoids and anal fissures among 1200 participant cases

Findings	No.	%
Hemorrhoids only	630	52.5
Hemorrhoids and anal Fishers	370	30.8
Uncomplicated Fissure	200	16.7
Total	**1200**	**100.0**

Table 2. Distribution Age , sex comorbidities among of 1200 hemorrhoids and anal fissures cases

Variable	No.	%
Sex		
Male	1090	90.8
Female	110	9.2
Comorbidities		
Heart disease	288	24.0
Diabetes mellitus	253	21.1
Systemic Hypertension	35	2.9
Ulcerative colitis*	2	0.2
Age ; range: 15-70 in males and 15-80 in females		

Table 3. Types of hemorrhoids and Grading of internal hemorrhoids among the studied group

Variable	No.	%
Types of hemorrhoids		
External Hemorrhoids	200	16.7
Internal Hemorrhoids	400	33.3
Mixed Hemorrhoids	600	50.0
Grading of internal hemorrhoids		
Grade I	630	52.5
Grade II	417	34.7
Grade III	55	4.6
Grade IV	98	8.2
Total	**1200**	**100.0**

Table 4. Laboratory findings among the studied group

Finding*	No.	%
Hemoglobin level 6-15 g/dl	920	76.7
Hemoglobin level < 6 g/dl	280	34.7
Hepatitis B positive	10	0.8
Total	**1200**	**100.0**
*All patients were HIV Negative		

Table 5. Distribution of incident post-operative complications among the studied group

Complication*	No.	%
Patient did well with no delaying factor	412	34.3
Pain	408	34.0
Oozing and bleeding	1200	100.0
Itching sensation	120	10.0
Retention of urine	192	16.0
Back pain (1-3 months) post op	244	20.3
Proctalgia fugax	3	0.3
Anal pain and tenesmus	2	0.2

* All complications were timely managed accordingly. None had Incontinence of flatus or feces

DISCUSSION:

Benign anorectal diseases like hemorrhoidal disease and anal fissure rank among the most common diagnosis in general surgery practices [17]. Up to 4% of the population suffers from hemorrhoidal problems, and the average lifetime risk of anal fissure has been reported as 7.8% in the United States [11]. The etiopathogenesis of hemorrhoids and anal fissures remain unclear; however, some theories implicating age- related changes in the connective tissue, hormonal influences and hemodynamic changes have been proposed [24,25]. Straining and constipation have been reported as common influential parameters and possible contributory factors in the development of this disease [26]. Epidemiological date from the UK demonstrates a hemorrhoid prevalence of 13-36% within the general population. Based on screening colonoscopy data, 44% of these patients were symptomatic. The average age (45-65 years) and Obesity are the primary risk factors [27]. Surgery is indicated when non-surgical approaches failed or complications arose. Different philosophies regarding pathogenesis of hemorrhoidal disease determine different surgical approaches [28]. In this article We report the results of an analysis of data from patients treated with conservative and surgical treatment for hemorrhoids and anal fissures. The prevalence of hemorrhoids and anal fissures in the present study revealed a 52.5% of patients diagnosed with hemorrhoids only, and 30.8% diagnosed with both hemorrhoids and anal fissure, while only 16.7% showed uncomplicated fissures. The prevalence of anal fissure may be under estimated, because at our setting anal fissures are considered as medciially treatable disease, and less patients consult surgeons unless they get fed up of recurrence or complications. Although no analysis has been done for the difference between gender and their ages; however, it was reported that there is no difference between these groups in term of age and gender [7]

Our findings showed that 30.8% of our patients had combined anal fissures with hemorrhoids, in 16.7% uncomplicated cracks were reported. Our findings consistent with that reported in literatures where most fissures occur in young adults and about 90% of fissures occurred in the posterior midline [27,29,30]. From other point of view, multiple fissures can occur simultaneously, for instance, anterior and posterior fissures which were reported in 3% of patients [29]. Treatment of anal fissures either conservative which was found to be associated with healing in 8-51% of cases [30]. Hemorrhoids are usually classified based on their location

and degree loss. Most clinicians use the classification system proposed by Banove et al. in 1985 [17], which classifies internal hemorrhoids according to the degree of their protrusion into the anal canal. This system both correlates with symptoms and guides therapeutic approaches. Similarly, and more simply, American Society of Colon and Rectal Surgeons (ASCRS) 2018 guidelines for hemorrhoid management classifies internal hemorrhoids into four grades [31]. This classification was used in our study as a guideline for the management of internal hemorrhoids. High percentage (52.5% of patients showed grade I and lower percentage of patients showed grade III and IV (4.6%, 8.2% respectively). Prolapsed hemorrhoids were detected in both grade III and IV. However, the classification of hemorrhoids continues to evolve, including potential future elements, such as prolapse, bleeding and pain, and may include consideration of comorbidities and female [32]. Hematological tests: A complete blood count (CBC) may be useful as a marker of infection. Anemia due to hemorrhoidal bleeding is possible [33], although rare (0.5 cases per 100,000 patients) [17], and its presence should raise suspicion of an alternative diagnosis. Hematocrit testing is recommended if excessive bleeding with associated anemia is suspected. Approximately 10% of our patients suffered from itching. Twice digital dilations were performed to alleviate their complaints.

In this study, 77% of our patients needs iron supplements added to their post-operative treatment; and 23% of patients received bloods transfusion before or after operation depending on the state of hematochezia. Cardinal signs of internal hemorrhouds are painless bleeding and intermittent protrusion [27,33,34]. They diagnosis generally requires exclusion of our conditions with similar symptoms, like inflammatory bowel disease (IBD) like ulcerative colitis and crohn disease. Our patients showed only two cases with ulcerative colitis and both were supplied with treatment. About 10% of our patients had suffered from itching sensation. Two finger dilatation was done to relief their complaint. This not unexpected as several studies supported our findings where hemorrhoids, particularly, the prolapsing ones, cause perianal irritation and itching with a feeling of incomplete evacuation or rectal fullness sensation [28]. Pain is usually not caused by the hemorrhoid itself unless thrombosis has occurred, especially in external hemorrhoids or if the internal hemorrhoids of the fourth degree become strangulated [28]. In the present study, 34% of our patients suffered from pain in the postoperative period. They were given intravenous paracetamol injections to relieve pain.

Postoperative pain remains major complication: most patients require 2-4 weeks before returning to normal activity [17]. Other possible complications include urinary retention (Kyle, 2022). Hemorrhoids are recognized as a very common cause of rectal bleeding and anal discomfort. In this study, all patients examined suffered from leakage and bleeding. In particular, patients should be informed of the possibility of bleeding. This usually manifests itself during the first hours or days after surgery and may require hospital treatment. Some of our patients required gauze pads to stop bleeding, others required coagulation, and the rest required ligation.

Fortunately, none of our patients had incontinence after surgery, this could be attributed the technical and procedural surgical approach we did follow where we often performed as much as possible minimal dissection of the sphincter. However, as it was expected, some patients developed postoperative complications such as delayed wound healing, we reported high rate of complications of more than 50% compared to that reported in literatures where only 3%-4% complication rates are reported [35,36]. Perry and Geibel [17] reported that, although post- operative pain remains the major complication, however, other possible complications may occur including incontinence. A possible association between prolonged sitting on the toilet and hemorrhoids has been proposed by some investigators [26,37,38]. In the present study, this kind of association has not been investigated, however, Nelson et al [39] investigated confounders associated with benign anorectal disease and found that extended time for defecation showed no apparent association with hemorrhoid or benign anorectal disease symptoms. Therefore, further studies are required to determine whether the extended time for defecation with squatting or sitting have a role in these anorectal disease. In this study fluid diet and high fibre diet were advised for our subjects.

It is also recommended to increase fluid intake, reduce fat intake, engage in regular exercise, improve hygiene, and refrain from straining and reading on the toilet and avoid medications that cause constipation or diarrhea. First of all, Randomized trials are needed to establish the effectiveness of the surgical approach, providing therapeutic recommendations and guidelines.

Our study has some limitations. Staining during defecation is not easily categorized as frequent and rare, and stool consistency as soft and hard, and their definitions might vary among

subjects; nevertheless, these conditions should be evaluated. It is not clear whether abnormal bowel habits are the cause or effect of this anorectal disease. Future studies with a larger volume from other sites in Iraq and statistical analyses would be of interest. Although this study was conducted in one private clinic in one region, the results should be generalizable to other areas.

CONCLUSION:

Surgical intervention approach was associated with high risk of postoperative complications with evidence that spontaneous healing may occurs. Therefore, we suggest that surgical approach should be concieved in selected cases. However, the defint conclusion about the role of surgery needs further investigation and still a subject for debate. We also recommend conducted further studies at multiple centers for further assessment and precsise conclusions.

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