

ORIGINAL RESEARCH

CLINICO-PATHOLOGICAL STUDY OF ANAL CANAL DISEASES AT TERTIARY CARE HOSPITAL IN WESTERN RAJASTHAN

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ABSTRACT

Introduction: Anal canal diseases include different pathologic disorders that generate significant patient discomfort and disability. Although these are frequently encountered in general medical practice, they often receive only casual attention and temporary relief.

Aim and Objective: This study was intended for a clinico-pathological analysis of different conditions with Clinical presentation and their clinical diagnostic and treatment modalities based on various demographic features and associated conditions.

Material and methods: The data were collected from under study population through a pretested and semi-structured schedule, which was designed in such a manner that more information regarding demographic profile, risk factors, morbidity and diagnosis could be collected. 100 patients aged between 21 to >50 were selected who were diagnosed as various Anal canal diseases in admitted and underwent surgical interventions during Nov 2020 to Oct 2021.

Results: Data related to objectives of the study were collected and analysed. Patients belonging to the age group 31-40 constituted the majority (33%). There was male predominance with (75%) male and (25%) female. According to related co-morbidities most of cases had Constipation (94%). hemorrhoids were the most common incidence of diagnosis 50%, anal fistula (18%), anal fissure (13%), Abscess (8%), anal polyp (2%) and patients have anal neoplastic (5%) condition which all were malignant and other various conditions. Most Anal canal diseases were revealed to type of management, majority of patients (41%) had hemorrhoidectomy, followed by (15%) patients had fistulectomy, (8%) had I&D, (6%) each had fistulectomy with hemorrhoids ligation and

Lord's dilatation with hemorrhoids ligation, (2%) patients each had excision of polyp and Lord's stitching. 3% patients each had abdominoperineal resection and lateral sphincterotomy. (4%) patients each had lord's dilation with excision of sentinel tags and conservative management.

Conclusion: Anal canal disorders include a diverse group of pathologic conditions like hemorrhoids, anal fissure, fistula, perianal Abscess etc. Although non-operative management is often the initial treatment, surgical option always needs to be a component of the armamentarium for dealing with these diverse processes. Thus, surgeons need to be aware of the aspects of approaching the patient with anal pathology, as ultimate recovery and function depend on accurate and proper evaluation and management.

Key words: Anal canal disorders, Anal Fistula, Hemorrhoidectomy, Fistulectomy.

INTRODUCTION

Anorectal disorders are a common reason for visits to both primary care physicians and gastroenterologists. Their prevalence in the general population is probably much higher than that seen in clinical practice, since most patients with symptoms referable to the anal canal do not seek medical attention.¹ These disorders are varied and include benign conditions such as hemorrhoids to more serious conditions such as malignancy; thus, it is important for the clinician to be familiar with these disorders as well as know how to conduct an appropriate history and physical examination.²

Anorectal disorders are common and can significantly impair a person's quality of life. Diagnosis is made by a comprehensive history of symptoms, visual inspection and digital rectal examination, along with selective tests. Diet, bowel habit and lifestyle changes are often first-line therapy for hemorrhoids, minor irritation.³⁻⁷ When conservative therapy is not effective, in-office ligation, sclerotherapy, or infrared coagulation for hemorrhoids should be considered. Surgery is reserved for those with persistent symptoms or grade 4 disease.⁸

Anal disorders are a common reason for visits to both primary care physicians and gastroenterologists. These disorders are varied and include benign conditions such as hemorrhoids to more serious conditions such as malignancy; thus, it is important for the clinician to be familiar with these disorders as well as know how to conduct an appropriate history and physical examination and provides guidelines on comprehensive evaluation and management. This study reviews various disease of anal canal. **More common diseases**²⁻⁵ Hemorrhoids [Internal or external], Anal fissures [Acute or chronic], Anal fistula [Low or high], Abscesses [Submucous], Polyps [Adenomatous, fibrous anal, juvenile], Anal skin tags or sentinel pile, Anal sepsis [Hydradenitis suppurativa, AIDS, syphilis]. While, **less common diseases**-Neoplasm [Benign or malignant], Crohn's Disease, Anal stenosis, Condylomas, Connective tissue masses like papilloma, Fibroma, Lipoma and Antiboma [Organized Abscess].⁹⁻¹⁵

This study was intended for a clinico-pathological analysis of different conditions with Clinical presentation, type of management of different condition, and their clinical diagnostic and treatment modalities based on various demographic features and associated conditions with outcome.

MATERIAL AND METHODS

The current study is a hospital-based analytical cross-sectional prospective study and the data were collected from the under study population through a pretested and semi-structured schedule, which was designed in such a manner that more information regarding demographic profile, risk factors, morbidity and diagnosis could be collected. 100 patients aged between 21 to >50 were selected who were diagnosed as various Anal canal diseases in admitted and underwent surgical interventions during Nov 2020 to Oct 2021. All patients with anal canal disease. All patients reporting to the Surgery dept. within study duration and eligible as per inclusion criteria were included in the study. Histopathology was performed as per the standard protocol of the hospital. Moreover, age, sex and the positive endoscopic findings related to the patient were also recorded in the pro forma.

SAMPLING METHOD

Convenience sampling

INCLUSION CRITERIA

- Patients attending the surgical OPD with anal canal disease.

EXCLUSION CRITERIA

- Pregnant Women
- Terminally ill cancer patients.

DATA COLLECTION

The data were collected from the under study population through a pretested and semi-structured schedule, which was designed in such a manner that more information regarding demographic profile, risk factors, morbidity and diagnosis could be collected. Reasons for the study were explained to the patients; prior to interview a written consent was taken. Diagnosis was made on the basis of clinical findings and anal canal examination, digital examination, proctoscopy and other investigations required as per the case. Anal canal examination was performed under the supervision of qualified surgeons.

STATISTICAL ANALYSIS

To collect required information from eligible patients a pre-structured pre-tested Proforma was used. For data analysis Microsoft excel and statistical software SPSS was used and data were analysed with the help of frequencies, figures, proportions, measures of central tendency, appropriate statistical test.

RESULTS

Total 100 cases were included in the study. The age of the patients was ranging from 21 to >50 were selected who were diagnosed as various Anal canal diseases in admitted (Fig 1). Most common age group in our study was 31-40 years (33%) followed by >50 years (29%), 41-50 years (20%) while least common age group was 21-30 years of age group where total 18% patients were found. In present study, male predominance over females where 75% were males and only 25% were females. We observed that hemorrhoids were the most common

incidence of diagnosis 50%, 18% patients had anal fistula, 13% patients had anal fissure, 8% patients had Abscess, while 2% each patient had Anal polyp and 5% patients have anal neoplastic condition which all were malignant and other various conditions (Table:1). Clinical presentation according to symptoms. In Abscess, out of total 8 patients, 8, 2, 4, 3 patients had pain, bleeding P/R, Discharge and swelling respectively while itching and anorectal mass was not present in any patient. In Anal fissure, out of total 13 patients, 12 and 9 patients had pain and bleeding P/R respectively. In Anal fistula, out of total 18 patients, 12, 3, 18 and 7 patients had pain, bleeding P/R, Discharge and itching respectively. In hemorrhoids, out of total 50 patients, 27, 50, 7, 9, 2 and 3 patients had pain, bleeding P/R, Discharge, anorectal mass, itching and swelling respectively. In Neoplasm, out of total 5 patients, 5,5,2,5,1 and 1 patients had pain and bleeding P/R, Discharge, Anal Mass, Swelling, Abdominal Distention and Vomiting respectively. In Anal polyp, out of total 2 patients, 2 patients each had pain and Anal Mass. In others, out of total 4 patients, 3 patients each had pain and 2 patients had Discharge (Table:2). Table 3 shows clinical presentation according to signs. In Abscess, out of total 8 patients, 8 patient each had redness fluctuation and tenderness while 3 and 4 patients had pallor and tachycardia respectively while tachypnea was present in 3 cases. In Anal fissure, out of total 13 patients, No patient had any type of signs. In anal fistula, out of total 18 patients, 3 patients had redness and scar mark. 4 patients had tenderness. In hemorrhoids condition, out of total 50 patients, only 6 patients had pallor and 10 patients had tachycardia. In 5 patients of Neoplasm, 2 patients had redness. 1 patient each had Fluctuation and tachycardia. 5 patients had tenderness and 3 patients had pallor. Out of total 2 Anal polyp cases, again no patients had any type of signs while in other diseases 2 patients had signs of redness and tenderness. According to type of management, majority of patients (41%) had hemorrhoidectomy, followed by 15% patients had fistulectomy, 8% had I&D, 6% each had fistulectomy with hemorrhoids ligation and Lord's dilatation with hemorrhoids ligation, 2% patients each had excision of polyp and Lord's stitching. 3% patients each had abdominoperineal resection and lateral sphincterotomy. 4% patients each had lord's dilation with excision of sentinel tags and conservative management (Table:4). Out of total 100 patients, 97 patients were discharged from the hospital while 3 patients had Discharge on request. No mortality was observed in our study. (Table:5).

OBSERVATIONS

Table-1: The Distribution of various diseases

Various Diseases	No. of Cases	Percentage
Abscess	8	8
Anal Fissure	13	13
Anal Fistula	18	18
Hemorrhoids	50	50
Neoplasm	5	5
Anal Polyp	2	2
Others	4	4
Total	100	100

Table-2: Clinical Presentation of cases according to symptoms

Various Conditions	Total Cases	Pain	Bleeding P/R	Discharge	Anal Mass	Itching	Swelling	Abdominal Distention	Vomiting
Abscess	8	8	2	4	0	0	3	0	0
Anal Fissure	13	12	9	0	0	0	0	0	0
Anal Fistula	18	12	3	18	0	7	0	0	0
Hemorrhoids	50	27	50	7	9	2	3	0	0
Neoplasm	5	5	5	2	5	0	2	1	1
Anal Polyp	2	2	0	0	2	0	0	0	0
Other	4	3	0	2	0	0	0	0	0
Total	100	69	69	33	16	9	8	1	1

Table-3: Clinical Presentation of cases according to signs

Various Conditions	Total Cases	Redness	Fluctuation	Tenderness	Scar mark	Pallor	Tachycardia	Tachy-apnea
Abscess	8	8	8	8	0	3	4	3
Anal Fissure	13	0	0	0	0	0	0	0
Anal Fistula	18	3	0	4	3	0	0	0
Hemorrhoids	50	0	0	0	0	6	10	0
Neoplasm	5	2	1	5	0	3	1	0
Anal Polyp	2	0	0	0	0	0	0	0
Others	4	2	0	2	0	0	0	0
Total	100	15	9	19	3	12	15	3

Table-4: Distribution of Cases according to type of management

Type of Management	Total	
	No.	%
Hemorrhoidectomy	41	41
Fistulectomy	15	15
Incision & Drainage	8	8
Fistulectomy with hemorrhoids ligation	6	6
Lord's Dilatation with hemorrhoids ligation	6	6
Lord's Dilatation	6	6
Excision of Polyp	2	2
Abdominoperineal Resection	3	3
Lateral sphincterotomy	3	3
Lord's Dilatation with excision of sentinel tags	4	4
Conservative Management	4	4
Lord's Stitching	2	2
Total	100	100

Table-5: Distribution of Cases according to Outcome

Management	No. of Cases	Percentage
Discharge	97	97.0
Discharge on request	3	3.0
Death	0	0.0
Total	100	100.0

Figure-1: Showing the distribution of the age of the patients.

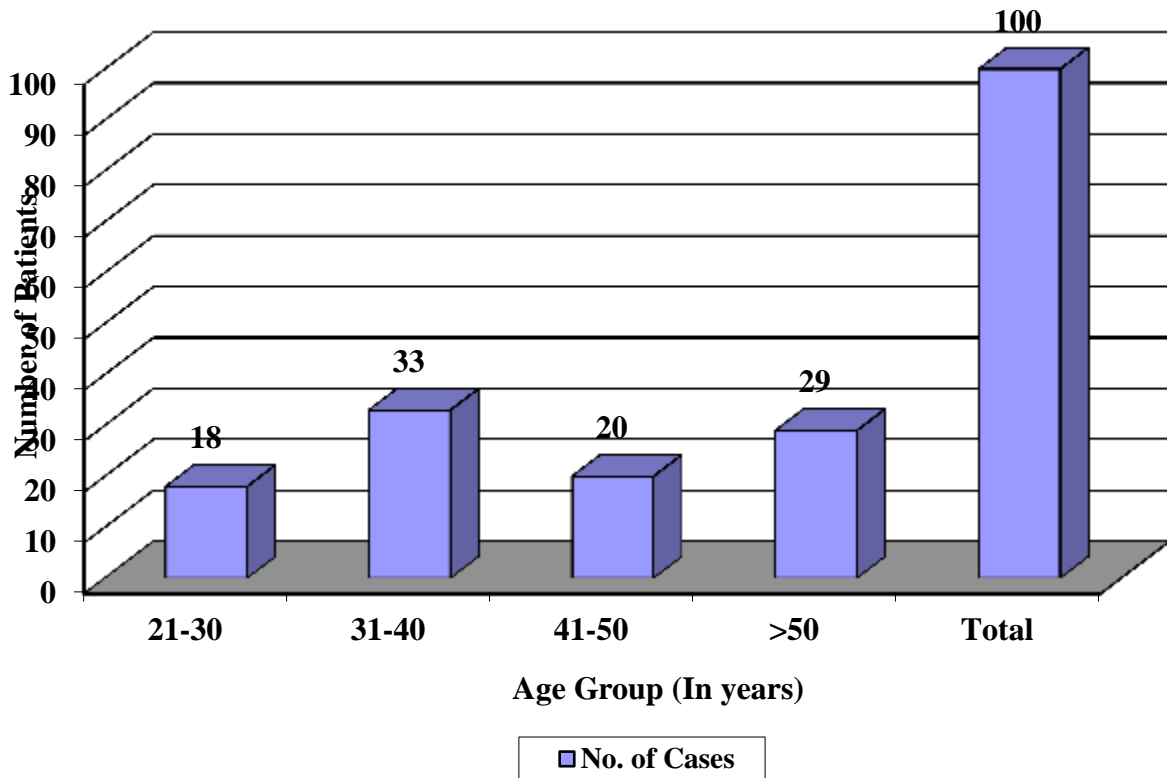


Figure-2: Showing the distribution of Clinical Presentation according to symptoms

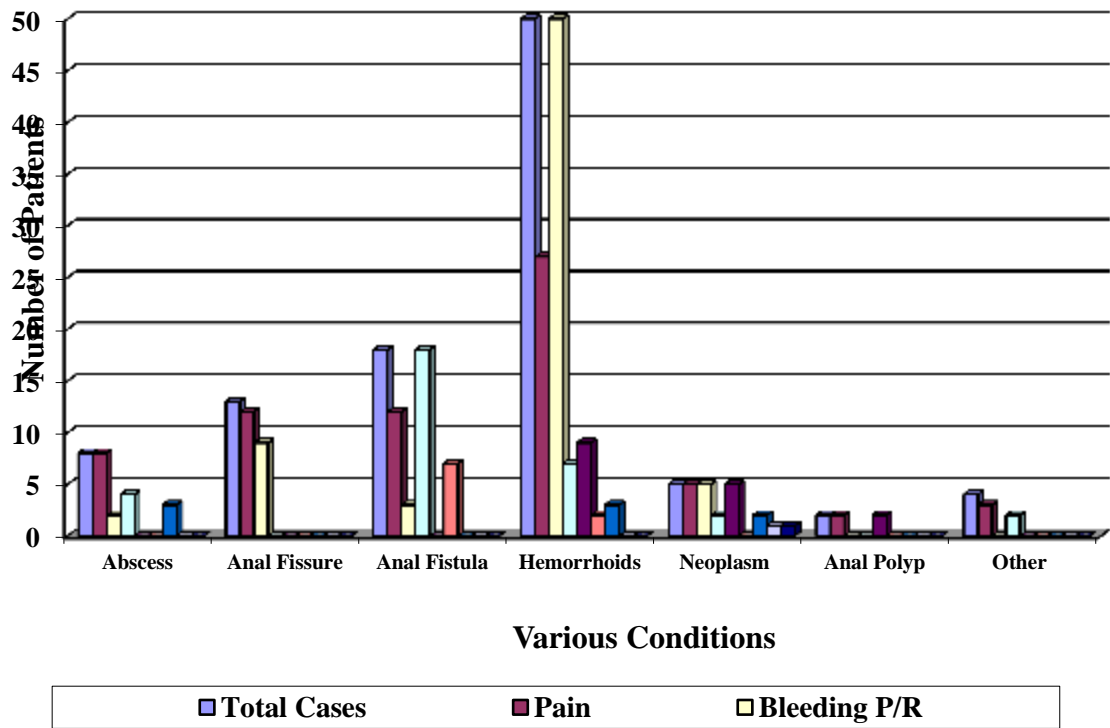
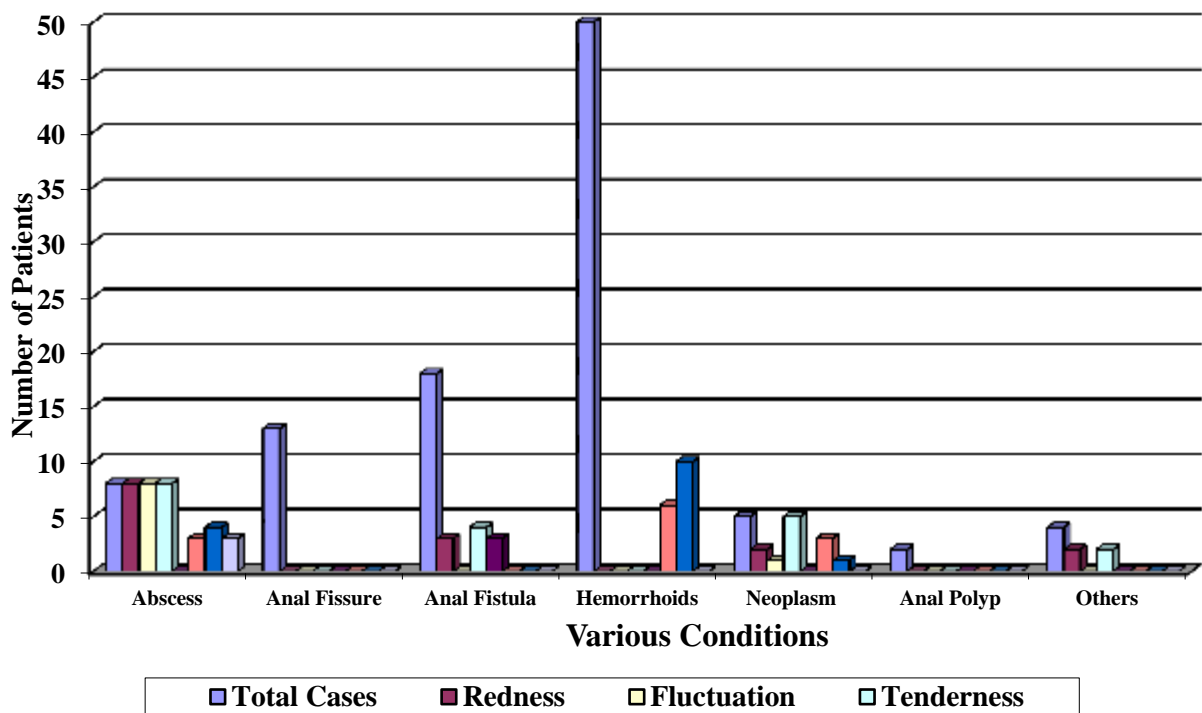


Figure-3: Showing the distribution of Clinical Presentation according to signs



DISCUSSION

Anorectal disorders are common and can significantly impair a person's quality of life. A comprehensive history makes diagnosis of symptoms, visual inspection, digital rectal examination, and selective tests. Diet, bowel habits, and lifestyle changes are often the first-line therapy for hemorrhoids, minor irritation, and FI. When conservative therapy is not adequate, in-office ligation, sclerotherapy, or infrared coagulation for hemorrhoids should be considered. Surgery is reserved for those with persistent symptoms or grade 4 disease.

In agreement with previous research, this study found a lack of knowledge of anal disorders among nonsurgical specialties. Moreover, we provide evidence that clinical symptoms influence diagnostic accuracy for this pathology more than years of clinical experience. Training in the diagnostic approach to anal pathology among physicians is therefore warranted including clinical symptoms and clinical images because both are important for diagnostic accuracy in these disorders.

Benign anal conditions are highly prevalent in the general population¹⁶. Hence, all physicians, whatever their specialty, will potentially attend patients with anal pathology. It is well known that most of these patients are initially attended by medical specialists rather than by surgeons¹⁷. Curiously, some studies have reported a high level of awareness among nonsurgical specialists¹⁸.

In a previous study, it had been demonstrated that a low percentage of diagnostic accuracy was achieved among medical specialists, providing strong evidence that more education on identifying this pathology is required⁷⁵. In this study, medical students were used as a control group, demonstrating the low training level in diagnosing anal diseases in this group.

A structured training plan for benign anal diseases is clearly required¹⁹. The question arises of when medical specialists should be trained in proctological diseases. Despite medical schools' efforts in this area, the training in anal disorders among students seems insufficient. In a study performed in Finland, final year medical students were tested in 10 minor surgical procedures, including rubber-band ligation of hemorrhoids. Although this specific procedure requires more than theoretical knowledge, it can be used as a reference for comparison with other procedures such as abdominal paracentesis or urinary tract catheterization. The questionnaires indicate that rubber-band ligation of hemorrhoids is one of the least known procedures among students and was performed by only 4%. The knowledge of this pathology in the control group (consisting of students) in Grucela's study was also poor²⁰.

In the present study, the most common age between groups was 31-70 years (82%) and the rest 18% cases had their age 21-30 years. Similar observations were also found by Yadav et al¹⁰⁰ where they found that 82% of patients were in between age group of 30-70 years. Similar observations were also observed by Ankouane et al²¹.

As per age group, out of 65 patients 42 belonged to the age group of 15-70 years, this justifies the fact that the anal fissures are more common in younger and middle aged persons. In young and middle aged persons muscles are toned and this tonicity resists the passage of hard stool and will result in the formation of fissure and may be because fissures are rare in aged persons due to muscular atony²².

A study by Johanson and Sonnenberg revealed that symptoms increase with age and most commonly occur between the age group of 45-65 years⁶. Goligher revealed that anal fissure is usually encountered in young and middle age adults and it has no gender preference.

Our study is male predominance (n=75) where male to female ratio was 3:1. These results are also consistent with the results of Yadav et al where in their study out of total 94 patients, they had 72 males and 22 females. Similar observations were also observed by Khan et al 76.20% (317) were males and 23.80% (99) were females. It is mentioned that anal fissures develop with equal frequency in both sexes²³ and according to our data frequency of anal fissure is more in males than females. The reason of this may be due to fact that the higher attendance of male patients in NIUM hospital, or it may be due to that the females are too shy to talk about or to consult the physician for anorectal disorders.

Hemorrhoids accounted for 50% of anal diseases in our study and were primarily internal. They are manifested by bleeding and anal prolapse for internal hemorrhoids, painful thrombosis, and the sensation of anal swelling for external hemorrhoids. The mean age of patients was 41.9 years. Male dominance was the rule with a male-female sex ratio of 4:1. This result is similar to the one reported previously in our country by Ndam et al²⁴, in a retrospective study that included 720 patients explored by lower endoscopy, the anal lesions found were mainly hemorrhoids (39.4%). Several epidemiological studies in West²⁵ and in Sub-Saharan Africa found similar results. A study from Côte d'Ivoire by Mahassadi et al²⁶ aimed at determining the characteristics of anal diseases in 136 patients attending the proctology unit. According to Janicke and Pundt most patients with perianal diseases present with bleeding, pain or itching²⁷.

The authors found that the prevalence of hemorrhoids was high (64%) among anal diseases and they are manifested by bleeding. Yassidanda et al²⁸ retrospectively found that hemorrhoids were frequent (58.88%) among 412 patients at the hospital l'amitié in Bangui, Central Africa Republic, and bleeding was a common complaint among patients. Similarly, Dia et al²⁹ studied clinical and endoscopic aspects of anus diseases at CHU Aristide le Dantec in Senegal. The authors reported a frequency of 93% for hemorrhoids among 2061 patients with anorectal complaints, especially bleeding. Finally, Bougouma et al³⁰ in 2012 described epidemiologic and diagnostic aspects of anorectal pathology in a hospital environment in Ouagadougou. The authors examined 645 patients and concluded that hemorrhoids were the main anal diseases (45.6%) and bleeding was the main presenting complaints. In 15.7% of cases, hemorrhoids patients had concomitant anal fissure. In literature, this association was found in 20% of cases and is explained by a common risk factor which is constipation³¹.

In the present study, hemorrhoids were the most common incidence of diagnosis 50%, 18% patients had anal fistula, 13% of patients had anal fissure, 8% patients had Abscess. In comparison, 2% each patient had Anal polyp and 5% patients have the anal neoplastic condition and other various conditions.

Fissure-in-ano was the third anal disease considered in this study (13.0%). It is a cause of anal pain and/or bleeding. Anterior fissures were more common in female patients. In this order, our results are similar to those in literature but the proportions are different¹². This result can be explained in our context by the scarcity of chronic inflammatory bowel diseases, especially Crohn's disease. Nevertheless, our country endures of other known causes of anal fissure atypical location, including tuberculosis and mostly HIV.

In the present study, clinical presentation according to signs of presentation. In Abscess, out of total of 8 patients, each had redness fluctuation and tenderness, while 3 and 4 patients had pallor and tachycardia, respectively while tachypnea was present in 3 cases. In Anal fissure,

out of total 13 patients, No patient had any type of signs. In anal fistula, out of total 18 patients, three had redness and scar marks. 4 patients had tenderness. In hemorrhoids condition, out of 50 patients, only 6 patients had pallor and 10 had tachycardia. In Neoplasm (n=5) 2 patients had redness. 1 patient each had Fluctuation and tachycardia. 5 patients had tenderness, and 3 patients had pallor. Out of total 2 Anal polyp cases, again no patients had any type of signs, while in other diseases, 2 patients had signs of redness and tenderness.

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A study done by Haas³³, Foxx et al³⁴. Common predisposing factors for perianal disorders include constipation, pregnancy and chronic straining. According to the study by Medich D *et al.* pregnancy is also a predisposing risk factor for developing symptomatic hemorrhoids³⁵.

In our study, according to type of management, majority of patients (41%) had hemorrhoidectomy, followed by 15% patients had fistulectomy, 8% had I&D, 6% each had fistulectomy with hemorrhoids ligation and Lord's dilatation with hemorrhoids ligation, 2% patients each had excision of polyp and Lord's stitching. 3% patients each had abdominoperineal resection and lateral sphincterotomy. 4% of patients each had lord's dilatation with excision of sentinel tags and conservative management. In present study, out of total 100 patients, 97 patients were discharged from the hospital while 3 patients had Discharge on request. No mortality was observed in our study.

CONCLUSION

Anal disorders include a diverse group of pathologic conditions like hemorrhoids, anal fissure, fistula, perianal Abscess etc. Although non-operative management is often the initial treatment, the surgical option must always be a component of the armamentarium for dealing with these diverse processes. Thus, surgeons need to be aware of the aspects of approaching the patient with anal pathology, as ultimate recovery and function depend on accurate and proper evaluation and management. Clinical examination is the most definitive mode of diagnosis. Anal diseases are seen most commonly in the age group 21-50 years, and more than half of the patients with anal diseases present with per rectal bleed. The most common anal disease affecting the population is hemorrhoids, of which internal hemorrhoids are seen more commonly. Constipation is the most common predisposing factor for anal disorders in males and females. Almost all cases of anal diseases were managed operatively, with maximum cases done under spinal anaesthesia. All cases were discharged under the satisfactory condition with no mortality.

LIMITATIONS

Further studies must be carried out in a large sample size to confirm our findings. In addition, future studies are also needed to evaluate the general population.

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