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Research Article

Anorectal Diseases in HIV Positive Patients: Experience with 112 Patients

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Abstract: Anorectal disease is the most common reason for surgical referral in patients HIV-positive patients. Anorectal pathology is seen in approximately one-third of these patients. It is estimated that more than one- half of these patients will require surgery. The objectives were to study the manifestations and modality of anorectal diseases in HIV positive patients, the impact of homosexuality and to estimate the overall outcome of surgical management. This is a cross sectional hospital based study done on patients infected with HIV who had anorectal symptoms in Gadarif Teaching Hospital from Mar. 2012- Mar. 2014. Seventy eight percent of the 112 patients in this study were males (range, 19-61) years with M: F ratio of 2:1. Their mean age was 34.3. Homosexuality was the most common in term of risk factors, present in 32 (28.6%) patients. The most common symptoms were anorectal swelling 47 (42%) patients, ulcer was in 43(38.4%) patients, pain present in 18 (16.1%) patients, and anal bleeding seen in 4 (3.6%) patients. The most common disorders was anorectal ulcer in 43 (38.4%) patients, Fistulas in 30 (26.8%) patients, abscess in 14 (12.5%) patients, haemorrhoidal diseases in 11(9.8%) patients, Condyloma present in seven (6.2%) and fissure in five (4.5%) patients. Anal neoplasms were identified in two (1.8%) patients. A total of 68 procedures were performed on 68 patients. Seven different types of procedures were performed on 60.7 % of our patients. Majority of the cases were clinically stage IV 82 (73.2%) patients. Ninety-three (83.0%) patients were already using ARTs. Fifty seven (83.8%) patients out of those who underwent procedures were completely resolved during follow-up, at an average time of 12 weeks. HIV positive patients showed variable and multiple perianal manifestations. They require treatment throughout the course of HIV infection. Despite challenged immunity of HIV-positive patients, patients receiving appropriate care at a proper time should expect low complications after any surgical procedure.
Keywords: AIDS, Anorectal disease, HIV.

INTRODUCTION

The prevalence of HIV/AIDS varies globally between less than 0.1% - 0.6% [1]. The HIV epidemic in the general population in Sudan is still low with a prevalence of less than 1% [2]. HIV infection is frequently accompanied by anorectal diseases and 6%-34% of seropositive patients suffer from them with the majority necessitates surgical intervention [3].

MATERIALS AND METHODS

This is a cross-sectional, hospital-based study done on HIV positive patients who had anorectal symptoms. The study was conducted over two years; from Mar. 2012 –Mar. 2014 in Gedarif Teaching Hospital and the volunteer counseling and testing/antiretroviral therapy center (VCT/ART center). The study population included all HIV positive patients come to Gedarif teaching hospital with anorectal symptoms. Data were collected using pre-tested coded questionnaire. It include general demographic data, presenting anal symptom, diagnosis, the degree of the haemorrhoid and the type of fissure, World Health Organization (WHO) staging, usage of antiretroviral therapies (ARTs), homosexuality status, management, surgical procedure and the outcome after three months. The data of the study was analyzed using statistical package for social science (SPSS).The study was carried out after approval by surgical department and hospital authority.Verbal consent was obtained from all patients and ethical clearance from the ethical committee of Sudan medical specialization board.

Operational definitions

- Complete healing means complete resolution of symptoms and signs.
- Partial healing means poor, delayed, failure of healing, presence of surgical complications e.g. infection or recurrence.

RESULTS

During the study period, a series of 112 consecutive HIV positive patients with anorectal

symptoms were studied and analyzed. Seventy eight percent of them were males. Their mean age was 34.3 (range, 19-61) years.

Presenting symptoms

Homosexuality was the most common in term of risk factors, present in 32 (28.6%) patients. The most common major triad of presenting symptoms were anorectal swelling, ulcer and pain seen in 47 (42%), 43(38.4%) and 18 (16.1) of thepatients respectively, while bleeding was the least presenting symptom seen in only four (3.6%) patients (Table 1).

Table 1: Presenting symptoms in HIV positive patients with anorectal diseases

Anorectal symptom	Frequency	Percent
Swelling	47	42.0
Ulcer	43	38.4
Pain	18	16.1
Bleeding	04	03.6
Total	112	100.0

Anorectal diseases

The two most common benign noninfectious disorders in the study were anorectal ulcer 43(38.4%) patients and fissure five (4.5%) patients. Condyloma is the only types of infectious disorders present in seven (6.2%) patients. Perianal sepsis was represented by fistulas and abscesses. Fistulas were present in 30 (26.8%) patients and abscessin 14 (12.5%) patients. Haemorrhoidal diseases was diagnosed in 11(9.8%) patients, third degree in ten (8.9%) and fourth degree in one (0.9%) patient. While no patients represent first or second degree piles. Neoplasms were identified in two (1.8%) patients, both were advanced squamous cell carcinomaof the anal canal (Table 2).

Table 2: Diagnosis of anorectal diseases in HIV positive patients

Diagnosis	Frequency	Percent
Wart	07	06.2
Ulcer	43	38.4
Fistula in ano	30	26.8
Perianal bscess	14	12.5
Anal tumor	02	01.8
Anal fissure	05	04.5
Haemorrhoid	11	09.8
Total	112	100.0

Surgical procedures

A total of 68 surgical procedures were performed on 68 patients. Seven different types of procedures were performed. procedure was performed on 60.7% of the patients. Major procedures, including two diverting colostomies for advanced squamous cell carcinoma. Eleven patients with haemorrhoidal diseases, one (0.9%) evacuation of a thrombosed haemorrhoid and ten (8.9%) patients of formal haemorrhoidectomy. Fourteen patientswith perianal abscesses underwent incision and drainage, four under general anesthesia and ten under local anesthesia. Seven patients with anal wart underwent extional biopsy. All 30 patients with fistulas underwent examination under anesthesia and fistulectomy. Five patients of anal fissures, one acute fissure treated conservative and four chronic fissure underwent examination under anesthesia and anal dilatation (Table 3).

Table 3: Surgical procedures done for HIV positive patients with anorectel surgical conditions

Surgical procedure	Frequency	Percent
Fistulectomy	30	26.8
Abscess drainage	14	12.5
Haemorrhoidectomy	10	08.9
Excisional biopsy	07	06.2
EUA* and dilatation	04	03.6
Permanent colostomy	02	01.8
Evacuation of pile	01	00.9
Total	68	100.0

*EUA: Examination under anaethesia

WHO clinical staging of HIV patients

The majority of our cases were either clinically stage IV 82 (73.2%) or Stage III was 23 (20.5%), while stage II or I were the least seen in three (2.0%) or four (3.6%) of the patients respectively (Fig. 1).

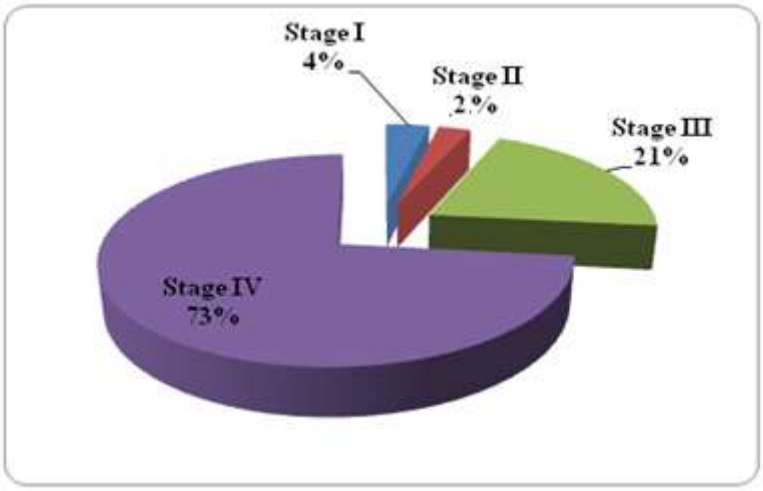

Fig. 1: WHO staging of HIV positive patients with anorectal disease

Ninety three patients (83%) were alredy using ARVs and 19 patients not on treatment (17%), 12 patients out of them were eligible to start ARTs while seven patents were clinically stage I and II which not recommended to start ARTs according to WHO guide line.

No mortality resulted from any of these procedures, and all patients were managed with minimum morbidity. Average duration of referred clinic follow-up was monthly for 3 months, no patients died during the follow-up period.

RESULTS

Fifty seven (83.8%) patients out of those who under went procedures were completely resolved during follow-up, at an average time of 12 weeks. Partial healing occurred in 11 (16.2%) patients. Recurrence occurred in three patients with fistulas. Abscess without identification of a fistula recurred in 12 patients, two patients only developed fistula after drainage. Patients in the age groups (40-50) and (above 50) showed partial healing in 26% and 100%respectively. While younger groups showed complete healing in 85-90.9%, p value 0.057.

All patients with perianal warts and anal fissure showed complete healing. Haemorrhoidal diseases and fistulas showed complete healing in 90.9% and 83.3% respectively. Partial healing observed increased in preianal abscess 21.4% and anal tumor 100% (two patients), p value 0.022. All patients in early clinical stages (stage I, II and III) completely healed within 12 weeks 100%. While late stages vary in healing, stage III showed partial healing in 22.4%, p value 0.156. Uses of ARTs has great effect on healing outcome after surgery in HIV positive patients. Those who use ARTs showed complete healing in all patients 100%, while partial healing occurred in 46.2% in those do not use ARTs, p value 0.004 (Fig. 2).

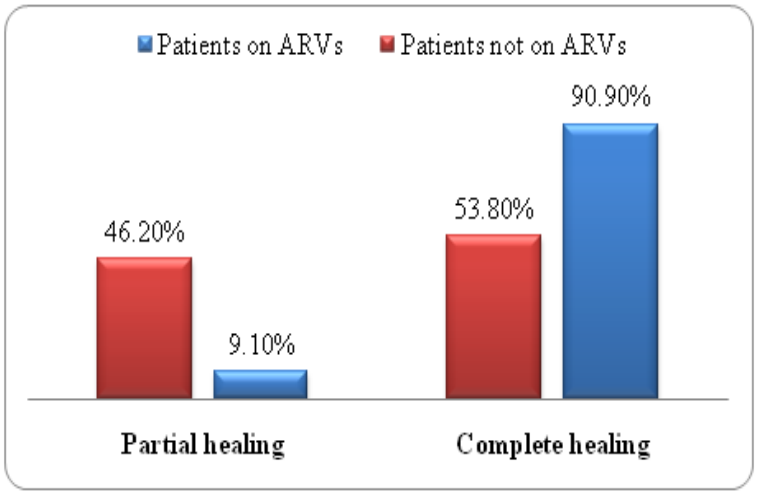

Fig. 2: Effect of ARTs usage in the oucome of healing after three months

The impact of homosexuality on the outcome of healing showed 71.4% complete healing and 28.6% partial healing, while non homosexuals showed 89.4% complete healing and 10.6% partial healing, P value 0.070.

DISCUSSION

In Sudan, the HIV epidemic in the general population is still low, HIV prevalence is less than 1%. In 2013 HIV prevalence among adult population is estimated at 0.31% – 0.42% translating to 67,830 (59,731 – 80,698) people living with HIV. Despite the low national HIV prevalence, epidemiological data suggest an HIV geographic aggregation pattern in the Eastern Zone (Red Sea, Kassala, Gadarif) and Khartoum state [1].

Recent studies in this field are that concluded by Heung-Kwon Oh. in Koria and Małgorzata Kołodziejczak in China. Heung-Kwon Oh performed a retrospective analysis on 72 HIV-positive patients who underwent surgery by a single surgeon for benign anal disease between 1998 and 2011. Of these, 68.1% of patients received surgery for condyloma acuminata, 19.4% for anal fistulas, 6.9% for haemorrhoids, and 5.6% for perianal abscesses. There was no significant increase in complication rate for patients with a low CD4+ T-cell count (< 200/μL) compared to those with a higher count. The results demonstrate favorable results following perianal surgery in HIV-positive Korean patients [2].

Małgorzata Kołodziejczak concluded that HIV infection is frequently accompanied by proctological diseases. According to various statistics from 6% up to 34% of seropositive patients suffer from them. Diseases of anorectal area are also the most frequent cause of the surgical intervention in patients infected with HIV. Ano rectal conditions in patients diagnosed with HIV and advanced AIDS are condylomas of perianal area and anal canal, fistulas, fissures, haemorrhoidal disease and abscesses. Taking into consideration the growing number of patients infected with HIV and HPV, one should expect the considerable increase in the number of cases of anal cancer [3]. When comparing the results in both above mentioned studies with ours we find increase incidence of condyloma unlike our study where perianal ulcer and fistulas are more common, this could be due to the poor hygiene of our patients.

Cancer of the anal canal is still a relatively uncommon disease in the United States. The National Cancer Institute statistics estimated just over 5000 cases of anal squamous cell carcinoma (SCC) [4]. The ratio of affected women to men is 3:2. However, there has been an increased incidence of anal SCC primarily seen in HIV-positive Men who have sex with men (MSM) [5, 6]. It is well understood that Human papilloma virus (HPV) is the major causative agent for anal SCC [7] . Although HIV is not the primary aetiologic agent in anal SCC, infection with HIV is a marker for co-infection with other sexually transmitted diseases, including HPV.

HPV-infected anal mucosal cells undergo temporal progression, with the stages of dysplasia graded as anal intraepithelial neoplasia (AIN). Reverse steps in this pathway can include clearance of HPV infection and regression of dysplasia [8].

Anal SCC in HIV-positive patients is a different disease process than anal SCC in non-HIV patients. Chemoradiation is the standard of care for all patients, regardless of HIV status. HIV-positive patients who are on HAART clearly fare better during treatment; acute toxicity and local control of disease remain challenges. Treatment modifications may enhance tolerance and effectiveness of treatment [9]. Idiopathic anal ulcers constitute a diagnosis of exclusion after ruling out *Herpes simplex virus* (HSV), *Cytomegalovirus* (CMV), *Mycobacterium Avium* Complex, gonorrhea, chlamydia, syphilis, fungus, and cancer on repeated biopsies.

Clinical characteristics include a broad base appearance, localization to the posterior midline and more proximally in the anal canal, erosion into the submucosa and sphincters, and diminished anal sphincter tone. Treatment centers on intralesional steroid injection or surgical debridement [10]. Poor healing is most closely associated with idiopathic ulcers or ulcers with a positive culture for HIV [11].CMV serology is found in more than 95% of HIV-positive patients, compared to 34% in the general population [12].

Mycobacterium Avium Complex infection, very common among Acquired Immunodeficiency Syndrome (AIDS) patients and associated with poor survival, can manifest with colorectal involvement and resultant watery diarrhea and dehydration [13]. Recommended treatment is with at least two pharmaceuticals, usually clarithromycin and ethambutol [14].

AIN is associated with HPV serotypes 16, 18, and 31. The neoplastic progression of the disease is believed to be similar to that of cervical cancer secondary to HPV [15]. Also, it is important to note that immune restoration with HAART has not been shown to decrease the risk of AIN [16]. Anal cytology may provide screening benefits. Previous cost-effective analyses have demonstrated that anal cytology screening for AIN lesions every 2 or 3 years in HIV-negative MSM and yearly in HIV-positive MSM can enhance life-expectancy outcomes relative to other preventive health measures [17, 18]. Recently, quadrivalent HPV vaccination has been recommended in boys for the prevention of external genital lesions [19], as well as among homosexual men for the

prevention of AIN [20]. Our low yield compared with other studies is related to the difficulty in isolating these viral pathogens with different laboratory sensitivities and standards at our institution.

Perianal condylomata is one of the most common anorectal condition encountered, These lesions seemed to be similar in clinical presentation to those in individuals without HIV. However, higher recurrence after treatment with topical agents or with excision and fulguration was noted. Furthermore, there was a high incidence of neoplastic transformation of anal condyloma to anal intraepithelial neoplasia (in situ carcinoma). Although the incidence of invasive squamous-cell carcinoma is increased in immunodeficiency, the risk and interval of progression to invasive carcinoma are unknown. Still, histological examination of condylomata should be routine in all patients [21].

Haemorrhoidal disease in HIV is real challenge and management options is confusing for many surgeons. Winston R. aimed on his study to compare morbidity of haemorrhoidectomy in HIV positive with HIV negative patients. There was no difference in overall complication rates between HIV positive and HIV negative patient groups. These data suggest that HIV status of a patient should not alter indications for surgical management of haemorrhoidal disease [22].

In patients with HIV presenting with rare (metastatic) abscesses, perianal sepsis must always be kept in mind as a possible focus. Although HIV-infected patients have a limited life expectancy perianal fistulas and abscesses should be aggressively treated, because of the high risk of severe complications [23]. In our study homosexual population seems to be particularly susceptible to anorectal lesions (28.6%). A high index of suspicion is necessary when evaluating homosexual male patients for HIV-related anoectal disease.

Previous reports have suggested that 15% of male homosexuals with AIDS but only 4 percent of non-homosexual AIDS patients undergo surgery for anorectal disease [24]. Although some of the conditions treated surgically, the outcome of healing was not significantly different from that of the HIV-positive non homosexual [25].

Management of HIV infection, however, has improved significantly with advances in both primary disease management, because of agents such as protease inhibitors and nucleoside analogs, and in theentire spectrum of treatment of HIV-retated disorders. Patients with HIV infections are now living longermore productive lives [25].

HAART has enabled better control over HIV infection. Thus, the immunologic status of such patients has been improving and changes in their perianal diseases also have been occurring. HAART have improved the anorectal disease incidences and outcome [25].

Healing after surgery in HIV positive patients is still area of debate for many surgeons. It was found that anorectal procedures were safe procedures, with a low complication rate (5%), almost entirely related to delayed wound healing in patients with low (< 200) CD4 counts. Given the excellent result achieved by the majority of surgery, this category of operation is both necessary and well-tolerated. Given the comparative frequency with which anorectal procedures are performed in our department, this is an important and clinically relevant finding [26]. These results to some extend looks like our study data in which complete healing occurred in 84% within 12 weeks with no mortalities. So, anorectal surgical wounds heal in most HIV-infected patients and that the survival time after surgery of HIV-infected patients with anorectal disease justifies appropriate surgical treatment.

CONCLUSION

This study demonstrates that selective surgical management based on correct identification of the underlying pathophysiologic processes will result in a high rate of complete or partial wound healing and symptomatic relief without excessive morbidity or mortality.

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