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Prevalence of gastrointestinal manifestations in HIV patients –A study from tribal State Chhattisgarh

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Abstract:

Background: ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) has killed more than 25 million people since it was first recognized in 1981, making it one of the most destructive epidemics in recorded history**.** It is estimated that 90% 0f HIV infected live in developing countries with Indian estimate of a 5.7 million. Overall average prevalence rate of HIV among adults in India is about .9% and it accounts for 10% of HIV burden and 65% of that in south and south-east Asia. Oropharyngeal and gastrointestinal diseases are common features of HIV infection. They are most frequently due to secondary infections**.** Gastrointestinal manifestations of HIV disease include chronic diarrhea, dysphagia and odynophagia, nausea vomiting, weight loss, abdominal pain, anorectal disease, jaundice, hepatomegaly, gastrointestinal bleeding and GI tumors. **Materials and Methods:** The present study was conducted in the Department of Medicine, Pt J. N. M. Medical College, and Dr BRAM Hospital Raipur (C.G.) from April 2011 to Dec. 2012. 30 HIV positive /AIDS patients of different age groups including 22 males and 8 females were included in the study attending outdoor or admitted in wards of Department of Medicine, in Dr. BRAM Hospital, Raipur. Diagnosis of HIV was done by rapid spot test reported reactive by VCTC, center in Department Of Microbiology of the institute. **Results:** In the study among 30 cases, 22 (73.3%) were males and 8 (26.7%) were females. Maximum number of patients 25 (83.3%) were in the age group of 21-40 of years. Most common mode of transmission was heterosexual in 24(80%) of patients. Ten (33.33%) males and 2 (6.67%) females had history of tuberculosis, 4 (13.33%) males 1 (3.33%) females had genital uler and 3 (10%) males and 1 (3.33%) females had history of blood transfusion. In the oesophageal symptoms retrosternal chest pain was present in 36.67% and odynophagia in 30%. Diarrhea was present in 43.33%, vomittng in 26.67%, nausea Tuberculosis was the most common past illness in 13.33% and abdominal pain in 20%. Oral thrush was present in 46.66% patients and aphthous ulcers were found in 13.33%. Lymphadenopathy was present in 20% patients predominantly involving cervical lymph nodes. USG abdomen showed lymphadenopathy as predominant finding present in 26.67% patients involving mesenteric and coeliac lymph nodes in 10%. In Upper GI Endoscopy oesophageal candidiasis was the most common finding present in 33.33% patients followed by oesophagitis in 14.28%. **Conclusion:** Gastrointestinal manifestations are very common and responsible for high morbidity in HIV patients involving whole of the GI tract. Oral thrush is a common in patients with HIV. Oesophageal candidiasis is common in patients with HIV presented with anorexia and odynophagia. Chronic diarrhea is very common and etiology is difficult to identify and responsible for significant morbidity and mortality.

Key words: HIV-Human Immunodeficiency virus; AIDS-Acquired Immunodeficiency Syndrome; GI- Gastrointestinal Manifestation

Introduction:

The emergence and pandemic spread of the acquired immunodeficiency syndrome (AIDS) constitute the greatest challenge to public health in modern times [1]. In 2011, more than 8 million people living with HIV were receiving antiretroviral therapy (ART) [2].

Current status in India- The first cases of HIV were diagnosed among sex workers in Chennai in 1986. Since then, the country has evolved from ―low to ―concentrated epidemic. In 2009, an estimated 2.4 million people (aged 15-49) were living with HIV, slightly lower than the 2.5 million reported in 2001. However, India remains just behind South Africa and Nigeria in numbers of persons living with HIV.

Current status in India in **Chhattisgarh**-A total of 1,310 AIDS patients were detected in 2011-12 and 1,550 in 2012-13. Also, 635 people died of AIDS during this period." 2,556 people were detected HIV positive in 2012-13, while the number was 2,982 in 2011-12," Highest no. of cases in Raipur district with 401 (2012-13) AIDS patients, which was 364 in 2011-12 [3].

Gastrointestinal manifestations of HIV disease include chronic diarrhea, dysphagia and odynophagia, nausea vomiting, weight loss, abdominal pain, anorectal disease, jaundice, hepatomegaly, gastrointestinal bleeding and GI tumors [4].

The three common presentation of oral candidiasis are angular cheilitis, erythematous candidiasis, and pseudomembranous candidiasis. Angular cheilitis presents as erythema or fissuring at the corner of the mouth. Pseudomembranous candidiasis (thrush) appears as creamy, white, curd like plaques on the buccal mucosa, tongue and other mucosal surfaces [5].

Chronic diarrhea with associated weight loss becomes increasingly common as CD4 counts drop below 200/µL. Typically, diarrhea arising from the small bowel is higher in volume and associated with weight loss and malabsorption, whereas colitis is characterized by lower abdominal cramps and frequent small bowel movements. Unfortunately, these generalizations are often of limited clinical value in AIDS patients, in whom multiple pathogen infections occur frequently [6].

Material and Methods

Study Population-All patients, who were having AIDS whether symptomatic or asymptomatic, attending outdoor of Medicine department or admitted in indoor of department of Medicine of Dr. B.R.A.M. Hospital, Raipur (C.G.) during the study period and gave oral informed consent after understanding the purpose of study, constituted the study populations.

Study Period -The present study was conducted in the Department Of Medicine; Pt J. N. M. Medical College, Raipur (C.G.) from April 2010 to December 2012.

Study Size -30 HIV/AIDS patients of different age groups including 22 males and 08 females were qualified to be enrolled in the study attending outdoor or admitted in wards of Department of Medicine, in Dr. Bhim Rao Ambedker Memorial Hospital, Raipur from April 2010 to December 2012.

History and physical examination was done and recorded on a pre-designed proforma. Enrolled patients were evaluated for routine blood counts, ESR, urine examination, ultrasonography of abdomen, barium meal follow through, and upper GI endoscopy was done.

Inclusion Criteria-

HIV Positive Patients

Exclusion Criteria-

i. All HIV negative individuals

ii. Known case of Malignancy and on prolonged steroids, taking immunosuppressive drugs.

iii. Patients who doesn't gave consent for the study

Results:

Table 1: Showing distribution among 30 cases according to occupation

S.NO	Occupation	Male		Female	
		No	%	No	%
1	Farmer	1	3.33	0	0
2	Labourer	8	26.67	0	0
3	House wife	0	0	8	26.67
4	Driver	8	26.67	0	0
5	Supervisor	1	3.33	0	0
6	Businessman	1	3.33	0	0
7	Clerk	1	3.33	0	0
8	Ex army man	1	3.33	0	0
9	Professionals	0	0	0	0
10	Factory worker	1	3.33	0	0

This table showing that among 30 cases, all females 8 (26.67%) were housewives. In the males, 1 (3.33%) was farmer, 8(26.67%) were labourer, 8 (26.67%) were driver, 1 (3.33%) was supervisor, 1 (3.33%) was businessman, 1 (3.33%) was clerk, 1 (3.33%) was Ex. Army man and 1 (3.33%) was factory worker. There were no professionals in the groups.

Table 2: Showing modes of transmission among 30 cases

S.NO	Transmission	Male		Female	
		No	%	No	%
1	Heterosexual	18	60	6	20
2	Homo sexual	0	0	0	0
3	IDUs	0	0	0	0
4	Blood	1	3.33	0	0
5	Not known	3	10	2	6.67

Among 30 cases, 18(60%) males and 6(20%) females had heterosexual transmission. 1(3.33%) male had history of multiple blood transfusions, which was probably responsible for transmission. In 3(10%) males and 2(6.67%) females mode of transmission was not known.

Table 3: Showing significant past history among 30 cases

S.NO	Past history	Male		Female	
		No	%	No	%
1	Tuberculosis	10	33.33	2	6.67
2	STD	0	0	0	0
3	Genital ulcers	4	13.33	1	3.33
4	Blood transfusion	3	10	1	3.33

Among 30 cases 10 (33.33%) males and 2 (6.67%) females had history of tuberculosis. 4 (13.33%) males 1 (3.33%) females had genital ulcer and 3 (10%) males and 1 (3.33%) females had history of blood transfusion.

Table 4: Showing various symptoms in 30 cases

S.NO	Symptoms	Male		Female	
		No	%	No	%
1	Fever	18	60	6	20
2	Wt loss > 10%	20	66.67	8	26.67
3	Anorexia	17	56.67	8	26.67
4	Cough	0	0	1	3.33
5	Vision difficulty	1	3.33	0	0

This table is showing that among 30 cases, 18 (60%) males and 6 (20%) females had fever, 20 (66.67%) males and 8 (26.67%) had wt loss > 10%, 17(56.67%) males and 8 (26.67%)females had anorexia, 1(3.33%) females had cough, 1 (3.33%) male had vision difficulty.

Table 5: Prevelence of Retrosternal chest pain and Odynophagia among 30 cases

S.NO	Symptoms	Male		Female	
		No	%	No	%
1	RCP	8	26.67	3	10
2	Odynophagia	6	20	3	10

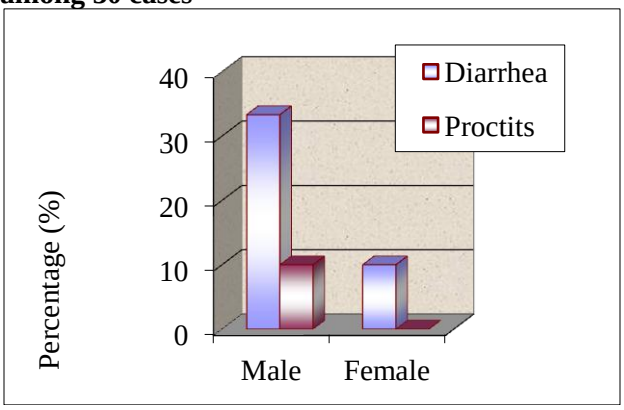
Among 30 cases 8 (26.67%) males and 3 (10%) females had retrostenal chest pain and 6 (20%) male and 3 (10%) females had odynophagia.

Table 6: Prevelence of nausea, vomiting and abdominal pain among 30 cases

S.NO	Symptoms	Male		Female	
		No	%	No	%
1	Nausea	3	10	1	3.33
2	Vomiting	6	20	2	6.67
3	Abdominal pain	5	16.67	1	3.33

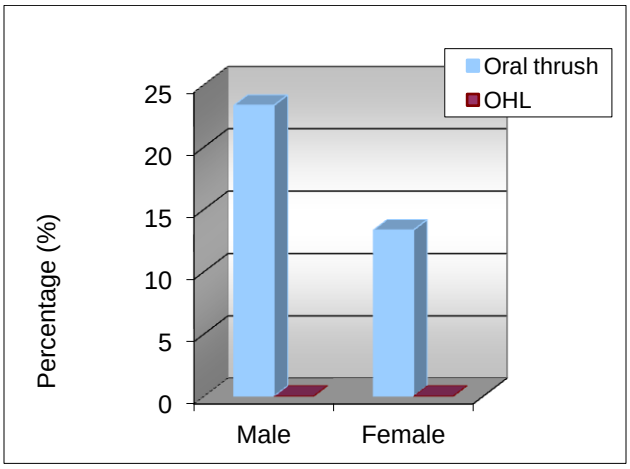
Among 30 cases 3 (10%) males and 1 (3.33%) female had nausea, 6 (20%) males and 2 (6.67%) females had vomiting, 5 (16.67%) males and 1 (3.33%) female had abdominal pain.

Figure 1: Prevalence of diarrhea and proctitis among 30 cases



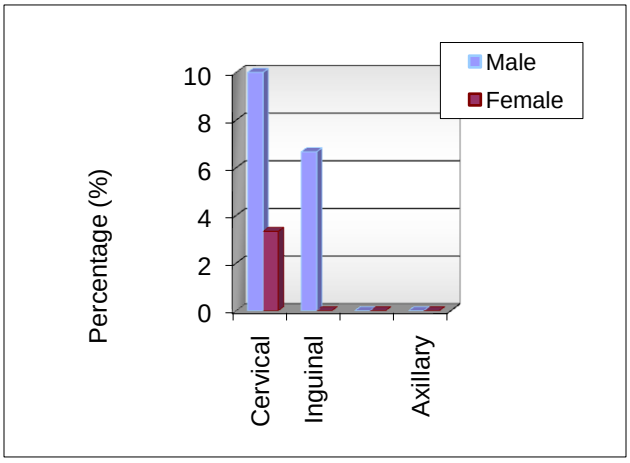
Among 30 cases 10 (33.33%) males and 3 (10%) female had diarrhoea, 3 (10%) males had proctitis.

Figure 2: Prevalence of oral thrush and OHL in 30 cases



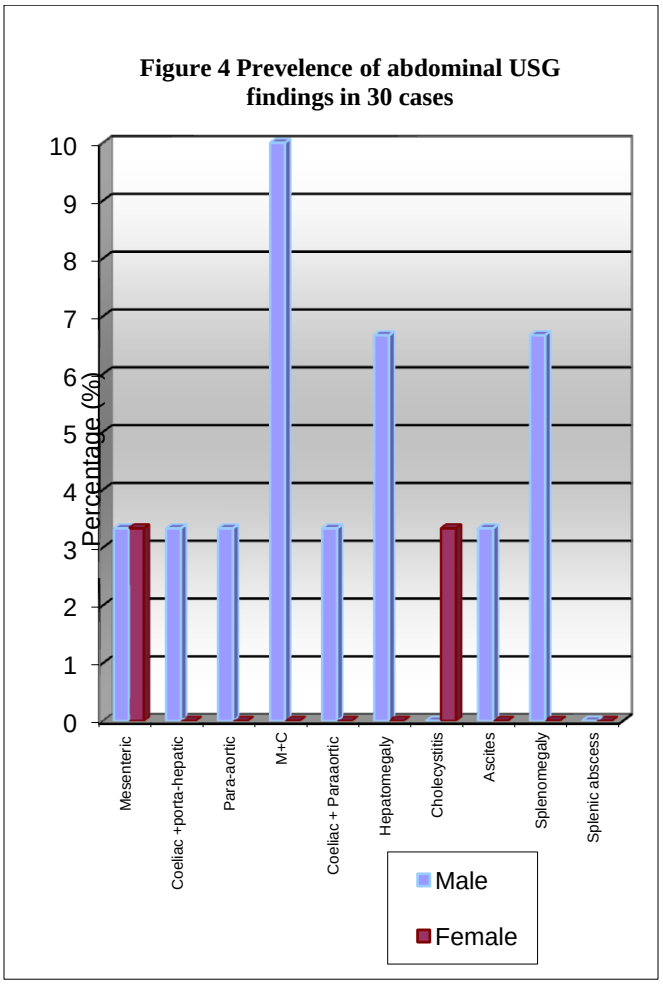
Among 30 cases 7 (23.33%) males and 4 (13.33%) female had oral thrush, there was no case of oral hairy leukoplakia.

Figure 3: Prevalence of Regional lymphadenopathy in 30 HIV cases

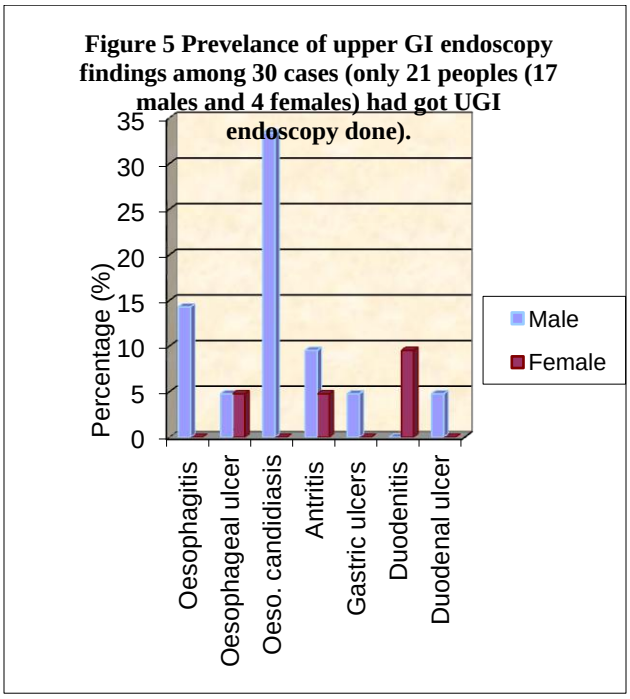


Among 30 cases 3 (10%) males and 1 (3.33%) female had cervical lymphadenopathy, 2 (6.67%) males had inguinal lymphadenopathy. Generalised lymphadenopathy and axillary nodes were not found.

Figure 4 Prevelence of abdominal USG findings in 30 cases



Among 30 cases 1 (3.33%) male and 1 (3.33%) female had mesenteric lymphadenopathy, 1 male (3.33%) had coeliac + porta-hepatic lymphadenopathy, 1 male (3.33%) had paraaortic lymphdenopathy, 3 (10%) males had mesenteric + coeliac lymphadenopathy, 2 males (6.67%) had hepatomegaly, 1 (3.33%) female had cholecystitis, 1 (3.33%)male had ascites, 2 (6.67%) males splenomegaly and 1 (3.33%) male had splenic abscess.



Among 21 cases 3 (4.76%) males had oesophagitis, 1 (4.76%) male and 1 (4.76%) female had oesophageal ulcer, 7 (33.33%) males had oesophageal candidiasis, 2 (9.5%) males and 1 (4.76%) female had antritis, 1 (4.76%) male had gastric ulcer 2 (9.5%) females had duodenitis and 1 (4.76%) male had duodenal ulcer.

Discussion

Advances in the anti retroviral therapy are changing the nature of HIV disease and affecting many of gastrointestinal manifestations and affecting many of gastrointestinal manifestations. Before combination antiretroviral therapy, the best estimates suggested that 50 to 93% of all patients with HIV disease had marked gastrointestinal symptom during the course of their illness [7].

C. albicans is the most frequent cause of candida infection in humans; it is the most pathogenic species of the genus candida and often forms part of oral and gastrointestinal commensal flora in the healthy adults. Therefore most infections are likely to be endogenous in origin [8]. During the course of HIV infection at some point, at least 30 percent of the patients might have had oesophageal symptoms. Oesophageal inflammatory diseases are frequently seen in advanced HIV disease. The most common causes of esophagitis are oesophageal candidiasis (50 per cent), herpetic oesophagitis (8 to 16 per cent) CMV oesophagitis (1/3) aphthous ulcer (1/3rd) [9]. Enteric protozoal infection is the commonest cause of diarrhoea in HIV-seropositive persons and is associated with apoptosis, occasional crypt abscesses, and much more severe villus atrophy than that seen with HIV infection alone [10].

Changes in the immunological responses in the gut mucosa allow the persistence of protozoal infection in HIV-seropositive individuals, and abnormal immune responses themselves may be important in the pathogenesis of diarrhoea. The CD4 lymphocyte population of the lamina propria in HIV-seropositive patients shows a disproportionate reduction compared with the circulating CD4 count (Lim SG. et al 1993). Enteric protozoal infection is the commonest cause of diarrhoea in HIV-seropositive persons and is associated with apoptosis, occasional crypt abscesses, and much more severe villus atrophy than that seen with HIV infection alone [11].

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Conclusion

Gastrointestinal manifestations are very common and responsible for high morbidity in HIV patients involving whole of the GI tract. Oral thrush is a common in patients with HIV. Oesophageal candidiasis is common in patients with HIV presented with anorexia and odynophagia. Chronic diarrhea is very common and etiology is difficult to identify and responsible for significant morbidity and mortality.

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References

1 Anantnarayan R, Paniker CKJ. Text book of microbiology. 5th Edition. Chennai: Orient Longmaan ltd; 1998: p 538-52.

2. Alberti A , Clumeck N , Collins S et al . Short statement of the first European consensus conference

on the treatment of chronic hepatitis B and C in HIV co – infected patients . J. Hepatol. 2005 ;42 : 615 – 624

3. Tripathi AK, Khanna M, Gupta N, Chandra M JAPI VOL. 55 JUNE 2007.

4. May GR, Gill MJ, Church DL. Gastrointestinal symptoms in ambulatory HIV infected patients. Dig Dis Science 1993; 138: 1388-94

5. Reznik DA. Oral Manifestations of HIV disease international AIDS Society USA topics in HIV medicine 2005/2006 : 13 (5): 143-48

6. Kartalija M: Diarrhea and AIDS in the era of highly active antiretroviral therapy. Clin Infect Dis 1999; 28:701-707

7. Malenbranche R, Guerin J, Laroche AC. Acquired immunodeficiency syndrome with severe gastrointestinal manifestation in Haiti. Lancet 1983; 2: 873-78.

8. Coleman DC, Sullivan DJ, Benett DE, Moron GP, Barry HJ, Shanley B, Shanley DB. Candidiasis the emergence of a novel species, Candida dubliniessis. AIDS 1997; 11: 557-67

9. Wilcox CM. Esophageal disease in acquired immunodeficiency syndrome, etiology, diagnosis and management. Am J Med 1992; 92: 412-21

10. Francis N. Light and Electron microscopic appearance of pathological changes in HIV gut infection. Baillieres Clin Gastreneterol 1990; 4: 495-527.

11. Lim SG, Condez A, lee CA, Johnson MA, Elia C, Paulter LW. Loss of mucosal CD 4 lymphocytes is an early feature of HIV infection. Clin Exp Immuno 1993; 92: 448-54.