

Gastrointestinal Problems in HIV/AIDS Patients

Zulkhairi, Imelda Rey, Taufik Sungkar, Lukman Hakim Zain

Division of Gastroentero-hepatology, Department of Internal Medicine
Faculty of Medicine, University of Sumatera Utara/Adam Malik General Hospital, Medan

ABSTRACT

Background: Gastrointestinal (GI) and hepatobiliary disorders are the most common complaints in patients with HIV/AIDS disease. These fundamental problems have not yet been addressed and remains a rewarding area for research. Data about the problems are scarce, especially in Indonesia. This study was aimed to identify gastrointestinal problems in HIV/AIDS patients who were hospitalized in Adam Malik Hospital, Medan.

Method: A descriptive study was conducted based on medical records data from non-ambulatory HIV/AIDS patients who had GI problems and who were hospitalized in Internal Medicine wards of Adam Malik Hospital, Medan from 2010-2012. Spearman rank test was used to evaluate the correlation between CD4 level and GI problems among 68 patients with CD4 data.

Results: We found 647 HIV/AIDS patients, i.e. 524 (80.9%) male and 123 (19.1%) female patients. Gastrointestinal problems were found in 315 (48.7%) patient among them. Oral candidiasis was the most common case found in 306 (97.1%), which was followed by chronic diarrhea 73 (23.2%), oral candidiasis with chronic diarrhea 64 (20.3%), dyspepsia 22 (6.9%), non-cirrhotic ascites 20 (6.3%), acute diarrhea 8 (2.5%), hepatomegaly 8 (2.5%), dysphagia 6 (1.9%), chronic hepatitis C virus 6 (1.9%), chronic hepatitis B virus 4 (1.3%), GI bleeding 3 (0.9%), and acute hepatitis A virus 1 (0.3%). Unfortunately, we found that there was only 68 data of CD4. Results of statistical tests showed a significant correlation between CD4 level and gastrointestinal problems ($p = 0.04$).

Conclusion: Oral candidiasis is the most common gastrointestinal problems in HIV/AIDS patients hospitalized in Internal Medicine Wards of Adam Malik Hospital.

Keywords: gastrointestinal, HIV/AIDS, oral candidiasis, CD4

ABSTRAK

Latar belakang: Gangguan saluran cerna dan hepatobilier adalah keluhan yang paling sering dijumpai pada penderita HIV/AIDS. Permasalahan ini belum semua dapat tertangani dan tetap menjadi topik yang menarik untuk dilakukan penelitian. Di Indonesia data mengenai permasalahan ini masih terbatas. Tujuan penelitian ini adalah untuk melihat gambaran kelainan gastrointestinal yang terdapat pada penderita HIV/AIDS di Rumah Sakit (RS) Adam Malik.

Metode: Studi deskriptif berdasarkan data rekam medis pasien HIV/AIDS rawat inap yang memiliki masalah gastrointestinal di bangsal Penyakit Dalam RS Adam Malik Medan tahun 2010-2012. Tes Spearman rank digunakan untuk mengetahui hubungan antara nilai CD4 dan gangguan saluran cerna pada 68 pasien dengan data CD4.

Hasil: Terdata 647 pasien HIV/AIDS yang dirawat pada periode tersebut, terdiri dari 524 (80,9%) laki-laki dan 123 (19,1%) perempuan. Sebanyak 315 (48,7%) pasien mengalami masalah pada pencernaan. Kandidiasis oral merupakan penyakit yang paling sering 306 (97,1%), diikuti oleh diare kronis 73 (23,2%), kandidiasis oral dengan diare kronis 64 (20,3%), dispepsia 22 (6,9%), asites non sirosis 20 (6,3%), diare akut 8 (2,5%), hepatomegali 8 (2,5%), disfagia 6 (1,9%), virus hepatitis C kronis 6 (1,9%), virus hepatitis B kronis 4 (1,3%), perdarahan saluran cerna 3 (0,9%), dan virus hepatitis A akut 1 (0,3%). Namun hanya ada 68 pasien yang memiliki data CD4. Secara statistik terdapat hubungan yang bermakna antara nilai CD4 dengan masalah gastrointestinal ($p = 0,04$).

Simpulan: *Kandidiasis oral adalah masalah gastrointestinal yang paling sering ditemukan pada penderita HIV/AIDS di bangsal Penyakit Dalam RS Adam Malik.*

Kata kunci: *gastrointestinal, HIV/AIDS, kandidiasis oral, CD4*

INTRODUCTION

Human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS) is a disease of the human immune system caused by infection of human immunodeficiency virus (HIV). The problems found in patients are generally correlated with some symptoms. The clinical symptoms are usually followed by a stage of disease, including acute infection, clinical latency, asymptomatic HIV, or chronic HIV. Since the beginning of the epidemic, almost 70 millions people have been infected with the HIV and about 35 million people have died of AIDS. Globally, 34.0 millions (31.4–35.9 millions) people had been living with HIV by the end of 2011.¹ Prevalence of HIV among adults aged 15 to 49 years in USA is 0.7%. A cumulative total of 712,477 HIV infections was reported to WHO/Europe and European Center for Disease Prevention and Control (ECDC) by the end of 2010 and reached over 1.5 million in 2011.² There are an estimated 3.5 million people living with HIV in South-East Asia Region; of these 37% are female. Five countries account for majority of the burden, i.e. India, Indonesia, Myanmar, Nepal and Thailand.³ The last data from Ministry of Health Republic of Indonesia showed that the total number of HIV were 103,759 patients by March 2013; among them 43,347 were AIDS, of whom 8,288 died.⁴

Gastrointestinal (GI) and hepatobiliary symptoms are the most common complaints found in patients with HIV/AIDS disease. The GI tract is a long tube with one entrance (the mouth) and one exit (the anus); problems can occur in any section on the way down.⁵ Approximately 50% of the patients infected with HIV present with gastrointestinal abnormalities and all of them virtually develop gastrointestinal complications during the course of the disease.⁶ Gastrointestinal symptoms such as nausea, vomiting or diarrhea may occur early in acute infection.^{7,8,9} The severity and the duration of GI symptoms are associated with a more rapid disease progression. If GI symptoms persists and did not subside with standard therapy, it may be the sign of a more serious problem.

These fundamental problems has not yet been addressed and remains a rewarding area for research. Data about the problems are scarce, especially

in Indonesia. This study was aimed to identify gastrointestinal problems in HIV/AIDS patients who were hospitalized in Adam Malik Hospital, Medan.

METHOD

Between January 2010 and December 2012, a retrospective study was conducted at Internal Medicine wards of Adam Malik Hospital, Medan. This study was attempted to explore all GI problems in HIV/AIDS patients. Medical records of 647 HIV/AIDS patients were evaluated; however, only 68 patients had CD4 data and 58 patients among them were identified with gastrointestinal problems and 10 other had no data about gastrointestinal problems.

HIV/AIDS patients were diagnosed based on WHO clinical criteria and laboratory findings such as enzyme-linked immuno assay (ELISA) and rapid test.⁷ Data was analyzed using SPSS 17. Spearman rank test was used to evaluate the correlation between CD4 level and GI problems among 68 patients with CD4 data.

RESULTS

We found 647 HIV/AIDS patients, i.e. 524 (80.9%) male and 123 (19.1%) female patients. The gastrointestinal problems were found in 315 (48.7%) subjects among them. Oral candidiasis (OC) were found in 306 (97.1%) patients and it was the most common case, which was followed by chronic diarrhea (CD) in 73 (23.2%) patients and oral candidiasis with chronic diarrhea in 64 (20.3%) patients. Acute hepatitis A was the least problem that occurred, which was found only in 1 patient. Unfortunately, we found only 68 data of CD4 to analyze the association between CD4 level and GI problems among them (Figure 1).

The baseline characteristics of CD4 level and GI problems among 68 patients are shown in Table 1. Male (75%) patients were dominant and 25% were female patients. The youngest was 15 years old and the eldest was 57 years old. According to WHO classification of HIV/AIDS, eligible patients were in Stage III (76.5%) and Stage IV (23.5%). The most common GI problems were oral candidiasis (77.9%), chronic diarrhea (11.8%) and acute diarrhea (2.9%).

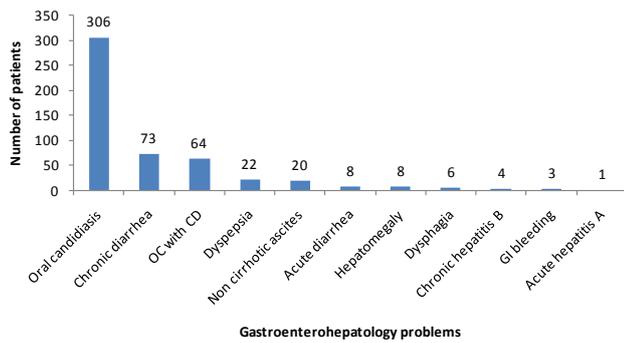


Figure 1. Gastroenterohepatology problems in 315 HIV/AIDS patients

Table 1. The baseline characteristics of the patients with CD4 data

| Variable | n = 68 |
|------------------------------------|--------------|
| Sex | |
| Male | 51 (75%) |
| Female | 17 (25%) |
| Age (years) | 15-57(32.37) |
| CD4 counts (cell/mm ³) | |
| < 200 | 64 (94.1%) |
| ≥ 200 | 4 (5.9%) |
| Stadium | |
| III | 52 (76.5%) |
| IV | 16 (23.5%) |
| GI problems | |
| Oral candidiasis | 53 (77.9%) |
| Chronic diarrhea | 8 (11.8%) |
| Acute diarrhea | 2 (2.9%) |

GI: gastrointestinal

Table 2. The correlation of gastrointestinal problems and CD4 value of the patients with Spearman rank test

| Variable | n | r | p |
|-------------|----|-------|-------|
| CD4 | 68 | 0.249 | 0.040 |
| GI problems | | | |

GI: gastrointestinal; r: correlation

The correlation test between CD4 level and gastrointestinal problems showed a very weak positive and patterned results, as an increased CD4 level would be followed by less gastrointestinal problems ($r = 0.249$). Results of statistical tests found a significant correlation between CD4 level and gastrointestinal problems ($p = 0.04$).

DISCUSSION

GI problems are frequently found in HIV/AIDS patients, especially in people with low immune function ($CD4 \text{ counts} < 200 \text{ cell/mm}^2$). Before a combination of antiretroviral therapy is initiated, the best estimates suggested that 50-93% of all patients with HIV disease had marked GI symptoms during the course of their illness.^{6,10} Recent clinical experience suggests that effective anti-HIV therapy and chemoprophylaxis for pneumocystis carinii pneumonia (PCP), mycobacterium avium complex (MAC), and

cytomegalovirus (CMV) may delay or prevent the occurrence of gastrointestinal opportunistic infections. We found 48.7% GI problems in HIV/AIDS patients and these data were confirmed with Malenbranche and Gazzard reports.^{6,10}

Gastrointestinal (GI) manifestations of HIV disease include diarrhea, dysphagia and odynophagia, nausea, vomiting, weight loss, abdominal pain, anorectal disease, jaundice and hepatomegaly, GI bleeding, interactions of HIV and hepatotropic viruses, and GI tumors (Kaposi's sarcoma and non-Hodgkin's lymphoma). Diarrhea is the most common GI symptom in patients with HIV. In outpatient studies, the prevalence of diarrhea ranged from 0.9 to 14%.¹¹ This study reported that oral candidiasis was the most common problem (77.9%); while diarrhea (acute and chronic) occurred only in 14.7% cases; however, it does not differ from Wilcox et al reports.¹¹

GI problems in HIV disease are most strongly associated with low CD4 counts (lowest CD4 count $> 200 \text{ cells/mm}^3$).^{12,13,14} In our study there was a significant correlation between the proportion of HIV/AIDS patients who had gastrointestinal problems and CD4 level ($p = 0.04$). This result was consistent with previous study.

CONCLUSION

GI disorders are common complaints in patients with HIV/AIDS disease and oral candidiasis is the most dominant case. This study reported a significant correlation between CD4 level and gastrointestinal problems.

REFERENCES

1. WHO Global Health Observatory. Data and statistic 2012 [cited 2013 Feb 1]. Available from: URL: <http://www.who.int/gho/hiv/en>.
2. WHO Regional Office for Europe. Data and statistic 2012 [cited 2013 Feb 1]. Available from: URL: <http://www.euro.who.int/en>.
3. WHO Regional Office for South-East Asia. HIV/AIDS in the South-East Asia region: progress report 2011 [cited 2013 Feb 1]. Available from: URL: <http://www.searo.who.int/entity/hiv/data/en>.
4. Ditjen PP & PL Kemenkes RI. Statistik kasus HIV/AIDS di Indonesia sampai Maret 2013 [cited 2013 May 17]. Available from: http://www.aidsindonesia.or.id/ck_upload/files/Laporan%20HIV%20AIDS%20TW%201%202013%20FINAL.pdf.
5. Monroe A. Gastrointestinal Problems and HIV. The effect on treatment success test positive aware network, Fall 2005 [cited 2013 May 17]. Available from: URL: <http://www.thebody.com/content/art1274.html>.

6. Gazzard BG. HIV disease and the gastroenterologist. *Gut* 1988;29:1497-505.
7. Stages of HIV. U.S. Department of Health & Human Services. HIV in United States: at glance [serial online] 2010 Dec [cited 2012 Jun 13]. Available from: URL: <http://aids.gov/hiv-aids-basics>.
8. Kinloch-de Loes S, de Saussure P, Saurat JH, Stalder H, Hirschel B, Perrin LH. Symptomatic primary infection due to human immunodeficiency virus type 1: review of 31 cases. *Clin Infect Dis* 1993;17:59-65.
9. Grijzen ML. Treatment of primary HIV infection [Dissertation]. Amsterdam: University of Amsterdam 2013.
10. Malenbranche R, Guerin JM, Laroche AC, Elie R, Spira T, Drotman P, et al. Acquired immunodeficiency syndrome with severe gastrointestinal manifestations in Haiti. *Lancet* 1983;2:873-8.
11. Wilcox CM, Rabeneck L, Friedman S. AGA technical review: malnutrition and cachexia, chronic diarrhea, and hepatobiliary disease in patients with human immunodeficiency virus infection. *Gastroenterology* 1996;111:1724-52.
12. Attili SVS, Gulati AK, Singh VP, Varma DV, Rai M, Sundar S. Diarrhea, CD4 counts and enteric infections in a hospital-based cohort of HIV-infected patients around Varanasi, India. *BMC Infect Dis* 2006;6:39.
13. Koch J, Kim LS, Friedman S. Gastrointestinal manifestations of HIV. HIV in site knowledge base chapter [serial online] 1998 Jun [cited 2013 Feb 1]. Available from: URL: <http://hivinsite.ucsf.edu/InSite?page=kb-00&doc=kb-04-01-11>.
14. Siddiqui U, Bini EJ, Chandarana K, Leong J, Ramsetty S, Schiliro D, et al. Prevalence and impact of diarrhea on health-related quality of life in HIV-infected patients in the era of highly active antiretroviral therapy. *J Clin Gastroenterol* 2007;41:484-90.

Correspondence:

Zulkhairi
Division of Gastroentero-hepatology
Department of Internal Medicine
Adam Malik General Hospital
Jl. Bunga Lau No. 17 Medan Indonesia
Phone: +62-61-8365742 Facsimile: +62-61-8365742
Email: zulinterna@yahoo.com
