

# A Study of Female Suffered from HIV Wasting Syndrome and Pulmonary Tuberculosis

Tri Ferry Rachmatullah\*

## Abstract

**Background:** Tuberculosis is the most often secondary infection of people living with HIV / AIDS. The tuberculosis co- infection with HIV will increase the risk of death. The purpose of this study was to understand the management of patient with HIV wasting syndrome and tuberculosis. **Methods :** A 45 years old female with HIV AIDS which being treated with ARV for 6 months, admitted to hospital with general weakness which was continuously progressive in three weeks. She felt fatigue and only lying on her bed for almost 2 month after she was hospitalized because of CNS infection. Sometimes there were fever, mild cough and vomiting. The general condition was weak, body mass index was 14.4 kg/m<sup>2</sup> (underweight) and she got a nasogastric tube. **Result:** The laboratory finding showed anaemia ( 8,1 g/dl), hypokalemia (2,4 mmol/L), hypoproteinemia (4,9 g/dl), hypoalbuminemia (2,1 g/dl) and elevated of liver function test (AST 61 U/L, ALP 155 U/L, GGT 206 U/L). CD 4 count 34 cells / mm<sup>3</sup> (410-1590 cells / mm<sup>3</sup>) and viral load detected 694.648 copies / ml. The chest X ray showed some infiltrate due to tuberculosis that has been diagnosed and treated earlier. Patient were treated with anti retro viral, anti tuberculosis, red cell transfusion, albumin transfusion, physiotherapy, occupational therapy and adequate nutritional management. The condition of the patient was getting better on several follow up and she was permitted to discharged from hospital. **Conclusion :** Patient with 4th Stadium of HIV AIDS required comprehensive and multidisciplinary management to improve their health condition.

**Keywords :** HIV wasting syndrome; Tuberculosis

## INTRODUCTION

The United Nations declared human immunodeficiency virus/ acquired immunodeficiency syndrome (HIV/ AIDS) to be a global emergency health problem. They give priority to ensuring access to care and support for the people living with HIV/AIDS and increase antiretroviral (ARV) therapy. AIDS wasting syndrome occurs when the patient AIDS lost at least 10% of their body weight. They also could experience 30 days of diarrhea or heavy weakness and fever that's not can be determined. It's not a specific disease, but it is a poorly understood condition. It is less frequent than in the past because of anti retro viral therapy, but it is still a significant threat. HIV wasting syndrome increases the risk for infection and death. Even a weight loss Less than 10%, it could increase these risks. HIV wasting syndrome occurs when the patient is not taking HAART medications.

There are several factors that work together to promote weight loss and wasting syndrome such as; not eating enough,

poorly nutrient absorbed, metabolism changing and high level of inflammation. Tuberculosis co- infection with HIV/AIDS world health problems with considerable mutual interaction. Tuberculosis is a leading killer of patient with HIV. The epidemic of HIV and AIDS in the world have made a serious problem on the management of tuberculosis. The co-infection with HIV will increase the risk of tuberculosis significantly. Tuberculosis was the most cause of mortality in patient with HIV AIDS.

Tuberculosis have already been a major disease in the world. There were more than 8.6 million people with tuberculosis and 1.3 million died because of it, including 320 thousand death with HIV AIDS. Estimatedly, 1.1 million people from all that got tuberculosis is HIV positive. By now, the epidemic development of HIV in Indonesia is the fastest in Asia. HIV increase risk of progression of latent tuberculosis to active tuberculosis. For an HIV co-infected with *Mycobacterium tuberculosis* patient, the risk of developing active tuberculosis reaches 5–10% annually.

\*Correspondensi : triferryrachmatullah@gmail.com

<sup>1</sup>Bagian penyakit Dalam Fakultas Kedokteran Universitas Islam Sultan Agung, Semarang

Received: 12 December 2022

Accepted: 24 February 2023

Published online: 27 February 2023

DOI : <https://doi.org/10.30659/ijmps.v2i1.123>

**CASE REPORT**

**History**

45 years old female, admitted to hospital with general weakness which was continuously progressive in three weeks. She felt fatigue and only lying on her bed for almost 2 month after she was hospitalized because of CNS infection. This complaint was accompanied by difficulty of swallowing, loss of appetite, and diarrhea. She had only ate a small amount of porridge and drank a little bit of water. Sometimes there were fever, mild cough and vomiting. There were no shortness of breathness, headache, and derivation of consciousness.

The patient suffered of HIV AIDS which already known and being treated with ARV for 6 months. She has hospitalized before because of pulmonary tuberculosis and CNS infection. She was treated with Lamivudine, Efavirenz, Tenofovir and Non DOTS treatment for pulmonary tuberculosis because there was history of drug induced liver injury. Her husband passed away 3 years ago because of HIV AIDS.

**Physical Examination**

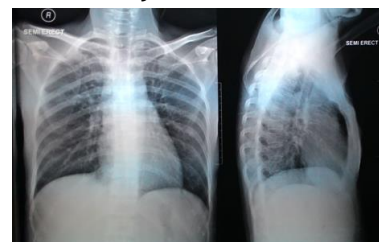
The patient’s level of consciousness was good, but the general condition was weak. Her body weight was 35 kg with height 156 cm, thus the patient’s body mass index was 14.4 kg/m<sup>2</sup> (underweight). The vital signs was good within normal limit. She was also got a nasogastric tube. On the eye examination, there was pale conjunctiva but no jaundice of the sclera. On the mouth examination, there was oral thrush around the mucosa of the mouth. There was no enlarged of lymph nodes. Lung and heart examination revealed within normal limit. The abdomen was flat, no costovertebrae angle tenderness, and there were no palpable kidney, liver, or spleen. There was a deformity on the left hand. There

were no edema on both upper and lower extremities.

**Table 1.** Laboratory findings

ITEMS	Results			Reference Range
	I	II	III	
Hemoglobin	8.1	7.46	11.5	12-15 gr%
Hematocrit	25.0	21.9	35.7	35-47%
MCV	92.3	96.0	94.7	76-96 fL
MCH	29.9	32.7	30.6	27-32 pg
MCHC	32.4	34.1	32.3	29-31 g/dL
Leukocyte	5.2	7.2	4.8	3.6-11x10 <sup>3</sup> /μL
Platelet	198	152	171	150-400x10 <sup>3</sup> /μL
Reticulocyte	1.36			0.5-1.5 %
Ureum	46	46		15-39 mg/dL
Creatinine	0.76	0.67		0.6-1.3 mg/dL
Sodium	149	146	149	136-145 mmol/L
Potassium	2.4	2.8	3.0	3.5-5.1 mmol/L
Chloride	111	113	121	98-107 mmol/L
Calcium	2.28			2.12-2.52 mmol/L
Magnesium	0.88			0.74-0.99 mmol/L
Glucose (random)	103			80-160 mg/dL
AST	61			15-34 U/L
ALT	33			15-60 U/L
ALP	155			50-136 U/L
Gamma GT	206			5-85 U/L
Total bilirubin	0.41			0-1.0 mg/dL
Direct bilirubin	0.36			0-1.0mg/dL
Total protein	4.9			6.4-8.2 g/dL
Albumin	2.2			3.4-5.0 g/dL
CD 4	34			410-1590 cells/mm <sup>3</sup>
Viral load	694.648			copies / ml

**Chest X-ray**



Heart : Shape and position was normal

Lung: The vascular pattern increase, infiltrate

**Interdisciplinary consultation**

**a. Consultation with clinical nutrition specialist**

BMI 14,4 kg/m<sup>3</sup>, muscle wasting +3, los of subcutaneous fat +3, severe malnutrition

- Metabolic status : increased
- Gastrointestinal status : functional
- Nutritional prescription
- Caloric requirement : 35 kkal/kg = 1700 kkal
- Protein requirement : 0.8 gr/kg = 35 grams protein (10%)
- Carbohydrate requirement (60%) : 1040 kkal
- Fat requirement (30%) : 520 kkal
- Dietary prescription
- Liquid diet I low protein (35 grams protein) through nasogastric tube

**b. Consultation with physical medicine and rehabilitation specialist**

- Physiotherapy : general active ROM exercise, repositioning every 2 hours, breathing exercise, endurance exercise
- Occupational therapy : energy conservative exercise

**Based on all of the data above, the medical problems were:**

HIV AIDS 4<sup>th</sup> Stadium, oropharyngeal candidiasis, pulmonary tuberculosis and HIV wasting syndrome.

**Treatment:**

1. Repositioning of the patient every 2 hours
2. General active range of motion exercise
3. O<sub>2</sub> 3 litres per minute by nasal canula
4. Liquid diet 250 cc every 4 hours, protein 35 grams daily through nasogastric tube
5. Human Albumin 60 grams intravenous
6. IVFD NaCl 0,9% 30 drops per minute
7. Lamivudin 300 mg PO OD

8. Evafirenz 600 mg PO OD
9. Tenofovir 300 mg PO OD
10. Fluconazole 200 mg IV OD
11. Cotrimoxazole 960 mg PO OD
12. Isoniazide 300 mg PO OD
13. Ethambutol 1000 mg PO OD
14. Rifampicin challenge 150 mg PO OD
15. KSR 600 mg PO TID
16. Interdisciplinary care with clinical nutrition specialist
17. Interdisciplinary care with physical medicine and rehabilitation specialist

**PROGRESS NOTE**

Patient's appetite is much better and he slept well. She can sit by assistance from her son. She had no diarrhea and the liquid diet was fully taken.

**Table 2.** Laboratory findings

Items	Result	Reference Range
Hemoglobin	10.7	12-15 gr%
Hematocrit	23.0	35-47%
MCV	89.3	76-96 fL
MCH	32.9	27-32 pg
Leukocyte	4.8	3.6-11x10 <sup>3</sup> /μL
Platelet	152	150-400x10 <sup>3</sup> /μL
Sodium	139	136-145 mmol/L
Potassium	3.1	3.5-5.1 mmol/L
AST	65	15-34 U/L
ALT	88	15-60 U/L
ALP	145	50-136 U/L
Gamma GT	109	5-85 U/L
Total bilirubin	2,12	0-1.0 mg/dL
Direct bilirubin	1,6	0-1.0mg/dL
Albumin	2,7	3.4-5.0 g/dL

## Evaluation

1. Clinical improvement of general condition
2. HIV AIDS 4<sup>th</sup> Stadium
3. Oropharyngeal candidiasis
4. Pulmonary tuberculosis with rifampicine hypersensitivity
5. Improvement of hepatocellular injury
6. HIV wasting syndrome

Patient was permitted to go home and planned to have follow up at VCT clinic. She still on nasogastric tube. Discharge Therapy : Lamivudin 300 mg PO once daily, Evafirenz 600 mg PO once daily, Tenofovir 300 mg PO once daily, Fluconazole 200 mg IV once daily , Isoniazide 300 mg PO once daily, Ethambutol 1000 mg PO once daily, KSR 600 mg PO three times daily and VIP albumin 1 caps PO three times daily

## DISCUSSION

A 45 years old female, admitted to hospital with chief complaint of progressive general weakness in 3 weeks. General weakness or fatigue is the common presentation of the patient with HIV AIDS. This complaint was accompanied by difficulty of swallowing because of severe oropharyngeal candidiasis. She's also loss her appetite and suffered from chronic diarrhea. She's also suffered from pulmonary tuberculosis that confirmed by microbiology criteria and got treat with non DOTS medication because there was history of *drug induced liver injury* on her past hospitalization. Two month before she admitted to hospital, she was also got hospitalized because of CNS infection.

The patient also suffered from HIV AIDS wasting syndrome. AIDS wasting syndrome occurs when the patient have AIDS and lose at least 10% of their body weight-- especially muscle. they may also have at least 30 days

of diarrhea or extreme weakness and fever that's not related to an infection. Not a specific disease, AIDS wasting syndrome is a poorly understood condition of AIDS (acquired immunodeficiency syndrome). It is less frequent than in the past, thanks to HIV (human immunodeficiency virus) medications, called HAART. But it is still a significant threat. It increases the risk for opportunistic infections, dementia, and death. Even a weight loss of 5% can increase these risks. The number 1 cause of AIDS wasting syndrome is not taking HAART medications.

The following factors can work together to promote weight loss and wasting syndrome: not eating enough. It may be difficult to get adequate nutrition for reasons (poor appetite from HIV infection, medication side effects, such as nausea, changes in taste, or mouthtingling, opportunistic infection symptoms, such as a painful throat or sense of fullness, lack of money or energy to shop for and prepare meals, depression), not absorbing nutrients well (HIV directly affects the intestinal lining, opportunistic infections interfere with absorption, medications cause diarrhea, which leads to loss of calories and nutrients) and changes in metabolism. From the all data above we can conclude that the patient got a 4<sup>th</sup> stadium of HIV AIDS based on WHO criteria.

## CONCLUSION

Data from history, physical examination and laboratory showed that patient suffered from HIV wasting syndrome and pulmonary tuberculosis. There was a significant reduced in body weight due to some pathologic condition of 4<sup>th</sup> stadium of HIV infection and also pulmonary tuberculosis that have been diagnosed earlier based on clinical symptom, bacteriological and radiological finding. The

patient also has oropharyngeal candidiasis, anaemia, hypoalbuminemia, electrolyte abnormality, and hepatocellular injured. Comprehensive management such as HAART, anti tuberculosis, red cell and albumin transfusion, also multidisciplinary management with clinical nutritional specialist for nutritional therapy and rehabilitation specialist for rehabilitation and occupational therapy has made good improvement to the patient.

12. David T D. AIDS Wasting Syndrome. WebMD. 2014

## REFERENCES

1. Jamal H, Tara, et al. Antiretroviral Therapy for HIV Infection in Adults And Adolescents. World Health Organisation. 2010
2. Prasad V, Palkana G. HIV Protocols. Humana Press. 2009
3. Eramova I, Matic S. HIV/AIDS Treatment and Care. World Health Organisation. 2007
4. WHO 12 recommended collaborative TB/HIV activities. 2011
5. Masci J. Outpatient Management of HIV Infection. Informa Health Care. 2011
6. Tuberculosis Care with TB-HIV Co-management :Integrated Management of Adolescent and Adult Illness. World Health Organisation. 2007 (IMAI)
7. Petunjuk Teknis Tata Laksana Klinis Ko-Infeksi TB-HIV. KEMENKES RI. 2012
8. TB / HIV Kemenkes RI 2015. [www.tbindonesia.or.id](http://www.tbindonesia.or.id)
9. Haileyesus G. TB Programe : The post-2015 Global TB and HIV strategies and agenda setting: what is going on ?. World Health Organisation. 2015
10. Treatment 2015 Initiative: what is the place for TB/HIV?. UNAIDS. 2015
11. HIV Classification: CDC and WHO Staging Systems. World Health Organisation. 2014