

Case Report

Molluscum contagiosum could become an early sign of HIV infection

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ABSTRACT

HIV is a type of virus that attack the immune system, causing it unable to function normally and putting the person in a condition called immunocompromised and is vulnerable to lots of infection. People living with HIV are prone to complications if there is persisting infection and inflammation. One of the inflammation markers is the neutrophil-lymphocyte ratio (NLR). Complication on the skin is one of the frequently happened. One of it is Molluscum contagiosum. Molluscum contagiosum caused by virus infection which target the epidermal layer of the skin that result in formation of round, umbilicated, painless papule or nodule. In this case report, we present a male, 49 years old which has complained of persistent fatigue and diarrhea. There is multiple rounds, skin-colored, painless papules on his face and neck since 6 month ago which keep increasing. Laboratory result show decrease in hemoglobin and high neutrophil lymphocyte ratio. In HIV, the NLR value has a significant negative correlation with the CD4 amount. The existence of molluscum contagiosum in an adult with unknown HIV status need to be considered as a possibility of an immunocompromised especially if accompanied with other conditions. In the patient with HIV, with the existence of *Molluscum contagiosum*, the possibility of decreasing CD4 and increasing viral load need to be suspected. The patient's obedience in consuming ARV also needs a careful attention.

Keywords: HIV, Molluscum contagiosum, Immunocompromised

INTRODUCTION

In 2021, numbers of people live with HIV reached 38.4 million. Africa, Sub-Saharan region contributes two-third of the numbers.¹ There are 1.5 million new cases around the world in 2021. In the Southeast Asia, there are 3.8 million people living with HIV on 2018. In Indonesia, numbers of people suffering from HIV is estimated to reach 640.000 with the composition of 400.000 male, 220 female, and the rest is children.² Deaths related with AIDS increased at 60% since 2010.²

HIV is lentivirus agent (retroviridae). The type of virus that attack the immune system, causing it unable to function normally and putting the person in a condition called immunocompromised and is vulnerable to lots of infection.¹ Along the way, people with HIV could experience lots of complication in their organ system. One

prominent example is problems with the skin called molluscum contagiosum.

Molluscum contagiosum is virus infection targeting the epidermis layer of the skin and would causing symptom such as the appearance of lesion in form of papul or nodul, umbilicated lesion. This virus is classified into Poxviridae family. It is widely found within children and is benign. It is estimated that 5%-18% of people with HIV is infected by molluscum contagiosum.³

CASE REPORT

A 49-years old male patient, with 2 weeks fatigue symptoms, and is getting worse for 3 days before hospitalization. The patient had diarrhea 5 to 6 times a day, with the consistency of liquid mixed food residue without mucus and blood. There was a decrease in his appetite

since a month. The patient experienced nausea and weight loss. Besides that, there was appearance of small bumps on his face since the past 6 months. The bump was increasing in numbers and did not feel painful once pressed. The patient has a history of HIV since 2017 and routinely having an ARV FDC consist of Tenofovir, Lamivudin, Efavirenz which taken once daily.

From vital sign examination showed the blood pressure of 105/70 mmHg, pulse of 80 times per minute, respiratory rate of 20 times per minute, oxygen saturation of 99% in a room temperature, and a 37⁰ Celsius body temperature. During the physical examination, his conjunctiva was pale. There was multiple light browned-coloured papule found and spread evenly on his face. On the abdomen examination, there was an increase in the bowel movement with no pain once pressed.



Figure 1: The patient had multiple lesions on the face.

The complete blood count examination showed an increasing leukocyte count with neutrophil's increase and lymphocyte's decrease. It is followed with an increase on the neutrophil- lymphocyte ratio (WBC 11.88 $10^3/uL$ (Neutrophil 84.5%, lymphocyte 7.4%, N/L ratio 11.41). The patient's haemoglobin was low along with the decrease of MCV and MCH (haemoglobin 5.8 g/dL, MCV 75.1 fL, MCH 22.6 pg). The renal function test examination is found to be increasing (urea 133 mg/dL, creatinine 3.3 mg/dL). Electrolyte serum test showed the patient was experiencing mild hypokalaemia (K 3.4 mmol/L). The liver function test showed a normal result. The blood sugar level 100 mg/dL. The chest x-ray showed the heart and lungs is within the normal level.

While getting hospitalized, the patient was given a two series of blood transfusion. The first one with 5 bags PRC and the second one with 3 bags PRC, hence there were an improvement in the patient's hemoglobin to 10.3 g/dL. Omeprazole 40 mg was given intravenously every 12 hours and antacid syrup every 8 hours. A combination of attapulgit and pectin was given when the patient is experiencing diarrhoea. Nefrosteril infusion was given

every 24 hours. ARV medicine was given in the form of FDC tenofovir, lamivudine, efavirenz and is given every 24 hours as well. The patient was given antibiotic cefixime 200 mg every 12 hours per oral. A biopsy examination was conducted for the bumps in the patient's face and neck, and a Handerson-paterson body was found which suggest a molluscum contagiosum. During the treatment, the patient was not consuming ARV medication routinely hence given another relevant education for him about how important it is to take the medication regularly. The patient was released from the hospital after 12 days of treatment.

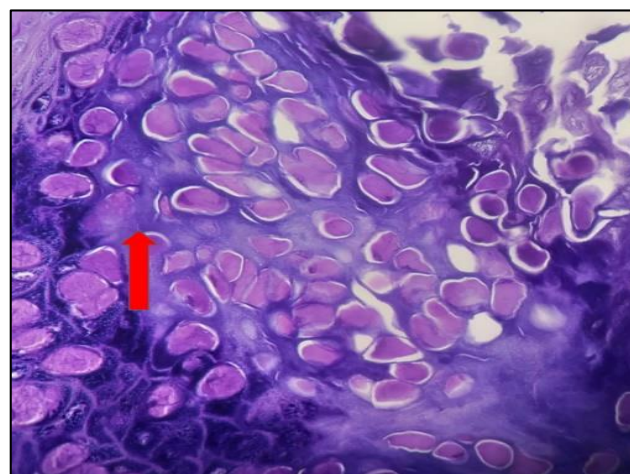


Figure 2: Handerson-paterson body was found.

DISCUSSION

The HIV diagnosis is established based on anamnesis, physical and supporting examination. It is important to identify specific antibody, antigen, or both.⁴ Frequently, HIV diagnosis is determined once the patient's illness has developed into AIDS. In this patient, the diagnosis was established in 2017 when he was experiencing a persisting diarrhoea for a month, low grade fever, and significant weight loss of more than 10% within a month with extreme fatigue. The PITC examination was conducted and the result was found to be reactive. Thus, the patient then receiving ARV therapy.

An HIV infection itself results in the activation of inflammation and coagulation route with an increase in the level of marker of inflammation and coagulation plasma. One of the inflammation marker is the NLR. The NLR is frequently used to identify the level of inflammation of people with cardiovascular and malignancy problems, systemic infection, and inflammation problems. In HIV, the NLR value has a significant negative correlation with the CD4 amount.⁵ There is an increased risk of complications leading to increased mortality with increasing NLR values.⁶ In this patient, a high NLR value is found indicating an active inflammation process.

The persisting infection and inflammation, factor such as the host's age, and the given antiretroviral therapy, leads to people with HIV being very vulnerable to

complications.⁷ The most common complication following HIV infection is happening with the skin. The complication in the skin frequently happen in the advanced stage of the disease. One of it is the molluscum contagiosum. Majority of Molluscum contagiosum (MC) happen to children. In patient with HIV, the prevalence of MC is estimated to reach 20%.⁸

The research by Schwartz and Myskowski shows there is a significant correlation between the value of CD4 with extension of MC lesions.⁹ HIV patient with low CD4 value, the dominant lesion exists in the face and neck, the spread is wider without the self-limiting character. Thus, the existence of MC could be used to identify acute immunodeficiency. In an adult male where the HIV status is unknown, the MC could be used as early indication of HIV infection. The MC lesion in HIV frequently look like a lesion caused by others disease hence a biopsy is needed to confirm it, especially if other complications are found. In this case, the patient said the bump appeared since 6 month. It was previously medicated, but not until it is finished. The number of lesions is increasing mainly in the face area. Besides lesions in the face, the patient was also experiencing a persisting diarrhoea. Thus, a biopsy was conducted and the diagnosis of MC can be made.

Besides complication in the skin, an abnormal hematologic was found which is anemia. The prevalence of the anemia increased with the worsening HIV. The cause of anemia in people with HIV is multifactorial. The dysregulation of immune system, haemolysis or ineffective production of erythrocytes due to direct or indirect effect towards the hematopoietic stem/progenitor cells (HSPCs) function.¹⁰ In this patient, there were a hemoglobin decrease classified as acute hypochromic microcytic anemia that could be caused by the HIV. There were also acute kidney injury (AKI) found on the patient. AKI could be an early marker of a kidney complication. AKI more frequently happen to a male, co-infecting with hepatitis C, and individual with a late-stage HIV.¹¹

The patient was given two series of blood transfusion. In the first series, there was no expected increase of HGB achieved, where 1 bag of PRC could increase the hemoglobin at 1 gr/dL.¹² The hemoglobin target was 10 gr/dL. The patient's haemoglobin which was 5.8 gr/dL only increase to 7.9 gr/dL. After an anamnesis and re-evaluation, it was found that the patient did not consume his ARV. After further education, the patient consumes his ARV and followed by the second series of blood transfusion with 3 bags PRC and the hemoglobin target was achieved. The ARV medication was a fixed drug combination consist of tenofovir, lamivudine, efavirenz.

CONCLUSION

We present a case of an HIV infection in male adult with several complications in the skin, haematology, and kidney. The complication on the skin is molluscum contagiosum. The patient's molluscum contagiosum was

persistent and spread evenly in the face and neck. Molluscum contagiosum commonly happen in children and is self-limiting. Hence, the existence of molluscum contagiosum in an adult with unknown HIV status need to be considered as a possibility of an immunocompromised especially if accompanied with other conditions. In the patient with HIV, with the existence of MC, the possibility of decreasing CD4 and increasing viral load need to be suspected. The patient's obedience in consuming ARV also needs a careful attention.

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