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HIV in Elderly Patient

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CASE

The patient is 66-year-old men from a small village in the foot of the Merapi volcano, Java Island, Indonesia. He is a husband and a father of three children with three granddaughters. He describes his life as a happy snack fruit farmer, adores living with his caring wife and enjoying role as a mosque priest in his village. But all are disrupted as his health condition has worsened in the past year. Previously, he has been hospitalized twice with the final diagnosis of chronic obstructive pulmonary disease; the tuberculosis has been ruled out by acid fast bacillus test since he also presenting with significant weight loss. Otherwise, he also has multiple visits to dermatologist due to itchy all over his body which is not improving with primary health center (puskesmas) medication. For his blurry eyes, he has been referred by his general practitioner to the ophthalmologist to be suspected with glaucoma and have lanatoprost medication for his eyes daily. He is also having diagnosis of lumbago with sciatica by neurologist since both of his legs are always sore and tingling. All of his outpatient visits and hospitalizations are covered by government health coverage in the same hospital as he has been referred by puskesmas.

Now he is admitted to the hospital with major complaint of dyspnea, wheezing and ronchi are prominent in his lung that indicate exacerbation of his COPD but with pneumonia as the X-ray shows. Doctors are still thinking of tuberculosis as the culprit but TCM and IGRA comeback negative. In the fifth day of inpatient unit, the doctor decide to check for HIV and surprisingly three HIV panel are having reactive result with CD4 58 cells/mm³ (normal range (410-1590 cells/mm³). Further collaboration of doctors is made and checked for others sexually transmitted disease. The TPHA is positive (1/640) and VDRL is reactive (1/4) means he has latent syphilis. Remembering all his complaints and specialist visits before, all might be related with HIV and syphilis.

After listen to the bad news privately, his shortness of breath worsens. He voluntarily tells the truth to his wife about his disease. To the HIV team, he confesses that around ten years ago, he has male sex partners with three of his friends. In the day-6 of hospitalization, he is desaturated and transferred to isolation high care unit to receive high flow nasal cannula (HFNC). His X-ray reveals worsening pneumonia with sputum culture presenting *Candida parapsilosis* and *Acinobacter baumannii*. His blood gas analysis manifest metabolic acidosis through out his care. His heart function is deteriorating with NT-Pro BNP 1192 (<125) with AFRVR (Atrial Fibrillation with Rapid Ventricular Response) in his ECG. He is later having sepsis, hypoglycemia, and stress ulcer until he died in his 15 days of hospital care.

During his care in isolation unit, no family members are allowed to visit. The doctor and nurses are helping the communication between the patient and the family via chat and videocall virtual visit. It appears that his family including distant family members are quite supportive by having daily call, they even held a community prayer at home for patient's health. The daughter tells us that all of his children are knowing his disease from her mother. They are shock by the fact that their dignified demeanor husband and father is having sexually transmitted diseases, but they try to accept it in advance. Besides, they choose to keep this information away from other family members or neighbors to avoid conflict and negative judgment.

Biological Diagnosis and Psychosocial Diagnosis

The patient has multiple biological diagnosis such as: respiratory failure due to pneumonia/COPD/ Acute Decompensated Heart Failure (ADHF), Human Immunodeficiency Virus (HIV) infection, Clinical tuberculosis, syphilis, AFRVR, septic/cardiogenic shock, metabolic acidosis, fibromyalgia, suspect of glaucoma or syphilis manifestation to the eye, severe energy-protein malnutrition, hypoglycaemia, stress ulcer. In this paper

we will focus on HIV and syphilis. Syphilis is a sexually transmitted infection caused by *Treponema pallidum*¹. The disease is also known as the great imitator since its possibility to manifest in any organ mimicking other diseases. In this case, most of his symptoms could be explained in relation with syphilis, such as manifestation of dermatology, ophthalmology, neurology and cardiovascular. A patient diagnosed with syphilis need to be tested for other sexually transmitted infections, including HIV, vice versa, which in this occasion happened to be double positive for syphilis and HIV. One-third of contacted of *Treponema Pallidum* patient become infected within 10-90 days of incubation period become primary stage. Syphilis passes through 4 distinct clinical phases with the unique characters²:

- Primary stage: chancre (3-12 weeks)
- Secondary stage: skin eruption(s) with or without lymphadenopathy and organ disease (14-12 weeks)
- Latent period: the absence of signs or symptoms of disease, with only reactive serologic tests as evidence of infection (early latent within 1 year, late latent after 1 year). This includes two thirds of cases.

- Tertiary stage: After one year, one third patient entering this stage with cutaneous and neurologic symptoms.

Based on those stage criteria, the patient might have tertiary stage of syphilis, neglected for years.

HIV is a retrovirus that causes progressive immune system dysfunction, predisposing patients to various opportunistic infections and malignancies. There are four stages of HIV that having clinical manifestations based on the CD4 cell-counts (figure 2)³. CD4 count detect progress and stage of disease while viral load indicate the rate of progression(figure 1)³. Chronologically by the natural history of the disease without any initial treatment, by ten years of exposure the patient already fall into AIDS with depleted CD4 and anti-HIV antibodies in contrast with surging viral load. The patient has 58 c cells/mm³ of CD4 means he is in stage 3 to for of AIDS.

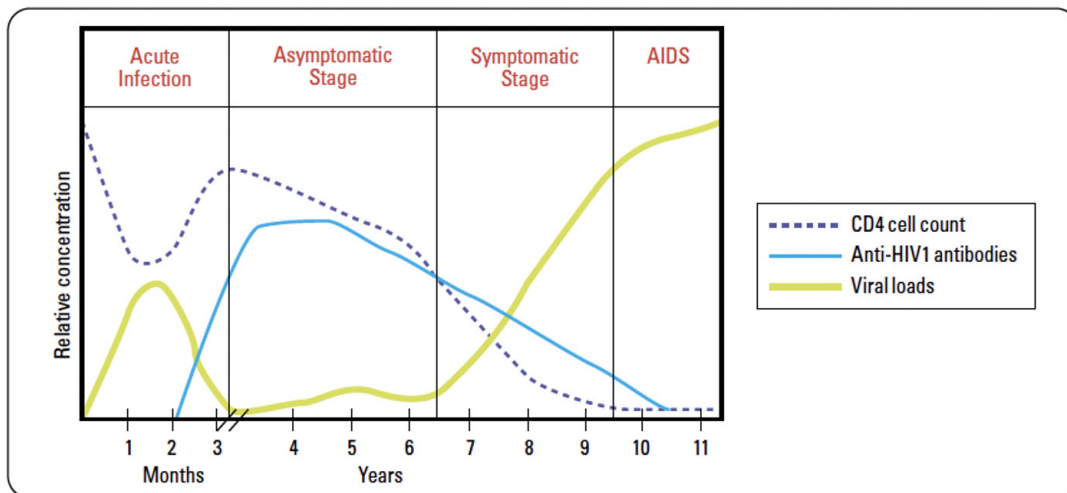


Figure 1. Relationships between CD4 T-cell count, viral load, and anti-HIV1 antibodies

CD4 Counts	Possible Manifestations
Stage 1: <500 cells/mm ³	Often asymptomatic Constitutional symptoms: fever, night sweats, fatigue, weight loss Mucocutaneous lesions: seborrheic dermatitis, HSV, VZV (shingles), oral hairy leukoplakia (EBV), candidiasis (oral, esophageal, vaginal), KS Recurrent bacterial infections, especially pneumonia Pulmonary and extrapulmonary tuberculosis Lymphoma
Stage 2: <200 cells/mm ³	<i>Pneumocystis jiroveci</i> pneumonia (formerly PCP) KS Oral thrush Local and/or disseminated fungal infections: <i>Cryptococcus neoformans</i> , <i>Coccidioides immitis</i> , <i>Histoplasma capsulatum</i>
Stage 3: <100 cells/mm ³	Progressive multifocal leukoencephalopathy (PML) – JC virus CNS toxoplasmosis
Stage 4: <50 cells/mm ³	CMV infection: retinitis, colitis, cholangiopathy, CNS disease MAC Bacillary angiomatosis (disseminated <i>Bartonella</i>) Primary CNS lymphoma (PCNSL)

Figure 2. Symptomatic Stage (CD4 count thresholds for classic clinical manifestations)

The psychosocial diagnosis of this case was denial-acceptance phase of grief according to Kübler-Ross. Initially patient was shock about the diagnosis of HIV that never in his imagination the result of what he did ten years ago was fatal. He felt guilty and ashamed to his wife children, extended family and his community as if he is fail as a husband, father and community member. All of his good acclamation suddenly collapse. But then knowing that his wife and children are still supporting him in his battle of recovery, he begin to accept the condition and having hope to be healthy and back home soon.

Problem Formulation

The problem in this case according to family medicine perspectives are:

- Neglected disease due to ageism
- Cultural barrier and role expectation that lead to stigma

Discussion

Age Bias in HIV Diagnosis

The elderly population in Indonesia is defined as individuals aged 60 and older⁴. This segment of the population is increasing in size and is expected to continue growing in the coming decades⁵. The number of new HIV infections in Indonesia in 2020 is 543,100 cases, but there is no specific data of age distribution while mostly it is newly found in male sex male population⁶. Epidemiological data in the United States shows that the elderly compared to other age ranges has the lowest HIV incidence. Data between 2016 and 2019 compares number of cases, the non-elderly population have decreased while the incidence for the elderly tends to be the same, around 11% of new HIV diagnosis in both year^{7,8}.

WHO have estimated that out of the 39 million people living with HIV in the world, approximately 2.8 million were 50 years and older⁹. Those number are from newly detected and already treated patients. Life expectancy in the world are getting longer, in other hand aging population usually comes with multimorbidity of chronic diseases that makes initial diagnosis, treatment and management of HIV becomes challenging¹⁰.

“The greatest barrier to the proper diagnosis is a prior diagnosis” - Jerome Hoffman

In the patient context, the onset of HIV exposure was 10 years ago. The clinical symptoms are obvious for HIV for the last years: unexplained weight loss, fatigue-myalgia-neuropathy, dermatology, respiratory complaints. He has been seeing multiple doctors and nurses from primary care to the hospital, but no one think of HIV until the near end. Healthcare providers often fall into the trap of age stereotypes, that lead to problem in prevention and diagnosis of HIV. Health providers are less likely to ask older patients about their sexual behaviour and do not provide the prevention information they would routinely offer to the younger patients¹¹. It is essential to recognize that elderly individuals can also be at risk for HIV infection, and symptoms that may seem age-related could be indicative of HIV or other underlying conditions.

A holistic approach to diagnosis that considers all potential factors is crucial¹⁰.

Javanese culture context of stigma for elderly patient with STD

In Javanese culture elderly are expected to be role models in terms of behavior and interpersonal interactions. Elders are supposed to play a significant role in family and community life. Elders are looked for advice and guidance on various life matters. Their life experiences are considered significant sources of wisdom and insight. They may be consulted for important decisions, and their opinions are often highly regarded. Thus, elders might also be involved in resolving conflicts within the family or community. Elderly people who failed to do so while being a source of conflict indicated as an unsuccessful aging¹⁰.

Maintaining harmonious life (rukun) and avoiding conflict are the core values of Javanese way of life. In this context, patient diagnosis as a HIV positive is a potential source of conflict and disruption of harmonious relationship between patient, family and the neighbors. Javanese culture upholds social cohesion and communal harmony through assessing behavior as its appropriateness or ‘kepantasan’¹². The majority of Javanese are Muslims, and Islamic values also play a role in shaping social cohesion. Elders are expected to be religious and have good spirituality¹³. Common Javanese culture views homosexuality as an inappropriate behavior while Islam considers it as a sin^{14,15}. The result, HIV connote with inappropriate and sinful behavior. Therefore, the concept of unsuccessful aging and the association of HIV with inappropriate behavior may lead to severe stigma for elderly patient with HIV.

Learning points:

- **Rethinking differential diagnosis of HIV regardless of patient age.**

Healthcare providers should avoid making assumptions or stereotypes about patients based on their age. Instead, they should approach each patient with an open mind and a willingness to consider a wide range of diagnostic possibilities

- **Cultural competence is essential in managing sensitive topic like HIV**

Healthcare providers should be trained to understand the cultural context of their patients, including beliefs, values, and potential sources of stigma. It can help understand the broader implications of an HIV diagnosis, such as its impact on relationships and social standing.

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