

Secondary Syphilis with Suspected Retinitis Syphilis in HIV-infected Patient: A Case Report

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Abstract: Secondary syphilis is a systemic vasculitis which caused by a high level of *Treponema pallidum* in a blood and immunologic response. In HIV-infected patient, the course of syphilis could change, usually with more severe lesions and complications. One of the complication is an ocular manifestation, which usually happened at secondary and late stage of syphilis. We present a case of a 18-year old Human Immunodeficiency Virus (HIV)-infected male, presented to Sexually Transmitted Disease Department with 1-month history of redness and scaly skin in both of palms, soles, and scrotum. He also complained about 3-weeks of progressive deterioration of both of his eyesight and a visual field abnormality especially in the left eye. Serology test showed results of TPHA + and VDRL 1/64. The patient was given Benzatin Penicillin 2,4 million IU injection and was referred to ophthalmologist department, which assessed his eye complaint as a retinitis syphilis because there's an inflammation in the left retina.

1 INTRODUCTION

An increase in the incidence of syphilis has been reported across the world over the last decade. After the marked decline in syphilis infection rates in the 1980s with the HIV/AIDS epidemic raising safe-sex awareness, the recent increase is thought to be primarily due to higher risk sexual behaviour, particularly among men who have sex with men (Hughes et al., 2010).

Moreover, syphilis has a variable clinical presentation, as it can affect many organ systems of the human body including the skin, heart, blood vessels, bones, nervous system, and the eye (Indriatmi, 2017; James and Berger, 2016). Manifestations of ocular syphilis itself are also diverse. Patients may complain of eye pain, vision loss, floaters, flashing lights, eye pressure, or photophobia. Syphilis has been documented to affect almost every structure of the eye and may affect the eye at both in the early and late stages of syphilis in both HIV-uninfected and HIV-infected patients (Dutta et al., 2017).

Syphilitic retinitis generally responds well to intravenous penicillin leading to favorable visual outcome, thus a high clinical suspicion and recognition of syphilitic retinitis in HIV-infected individuals followed by prompt initiation of

treatment are crucial for clinicians even in the absence of objective evidence of syphilis (Shinha and Weaver, 2016). Herein we report a case of suspected syphilitic retinitis in a patient with secondary syphilis and HIV-positive.

2 CASE

An 18-year-old male, a private employee, came to the STI clinic in Sardjito General Hospital at July 2017 with a chief complaint of a reddish scaly spots on the palms, soles, and his scrotum since the last 2 weeks, which is not itchy, nor does it painful. This complaints was started in his palms, then spread to the soles and scrotum. When asked about a history of genital ulcer, he denied it. He also complaint about visual impairment in both of his eyes since 1 month ago. This deterioration was progressive, he can only see a light with his left eye, his right eye still could see clearly but with a slight visual impairment.

This patient was already diagnosed with HIV-positive since November 2015, but never received antiretroviral therapy since then. He previously experienced similar complaints of reddish and scaly patches in both of his palms and soles in March

2016, was referred to STI clinic in Sardjito General Hospital, and in there he was diagnosed as Secondary Syphilis. He didn't admit that he was HIV-positive at that time to the doctor in STI clinic. Benzatin Penicillin G 2,4 million IU was injected intramuscularly, and since then, he never came back for serologic testing after the treatment.

The patient was a consumer of sex worker and already had a sexual intercourse with more than 4 female sex workers. He also had sexual intercourse with 1 male partner, usually become the receptive one. The last time he had intercourse was about 1 year ago with sex worker, after being infected with HIV.

From the physical examination, the patient was fully alert and generally in a great condition. On both of the palms and soles, as well as the scrotum, there was a defined border erythematous plaque, with a white scale on the surface of the lesion. Our differential diagnosis was secondary syphilis, palmoplantar psoriasis, and tinea manus and pedis. Skin scraping examination with potassium hydroxide showed no fungal element. Serologic test for syphilis was done with results of VDRL 1/64 and TPHA +. Based on clinical and laboratory examinations, the patient was diagnosed as a secondary syphilis. The patient was administered with an injection of Benzathine of Penicillin 2.4 million IU.

After the treatment was given, the patient felt the reddish plaques improve. Plaques on the scrotum disappeared, and the lesions on both of the palms and soles have faded. However the patient complained of blurred vision in both of his eyes, so we refer the patient to the ophthalmology department. Based from examination with ophthalmoscope, there was an inflammation in the left retina and a keratitis in the right cornea. Visus for both of his eye were 6/18 for the right eye, and 1/300 for the left one. He was assessed as retinitis syphilis, with a differential diagnosis of retinitis CMV, because laboratory examination showed results of increased level of IgG Anti CMV (28 UA/mL), but with a normal level of IgM Anti CMV (0,1 UA/mL). He was given erythromycin eye drop for his right eye, but no treatment for the left one. The patient was also complaining about headache, so we refer the patient to neurology department and to get CSF examination. In neurology department, MRI was done with normal results, but they didn't do a lumbar puncture examination. The patient was assessed as Tension Headache and was given NSAID to relieve his headache.

3 DISCUSSION

In this report, we described a case of secondary syphilis with suspected retinitis due to syphilis in a patient with AIDS. Retinal involvement due to syphilis has been described in individuals with advanced HIV infection (Shinha and Weaver, 2016; Matsuo et al., 2017; Wells et al., 2017; Maves et al., 2008; Doris et al., 2006). Our case posed a diagnostic challenge since the fundoscopic findings were also suspicious for viral retinitis, particularly CMV. CMV retinitis is characterized by dense retinal whitening, which can vary in appearance from "fluffy" to "dry and granular." Hemorrhage is frequently present, but in highly variable amounts, and may be absent (Heiden et al., 2007). In our case, ophthalmologist department only mention about inflammation and dilated vessel in the left retina. Retinitis CMV doesn't need to be checked for laboratory examinations, the diagnosis could be made just from clinical presentation which is typical (Heiden et al., 2007). Based from the examination results from the ophthalmologist, we still can't draw out a conclusion about the retinitis, is it due to syphilis or CMV.

Though ocular syphilis is typically thought to occur in the secondary or tertiary stages of syphilis, it can occur at any stage. Panuveitis is the most common complication associated with ocular syphilis; however, it can affect nearly all ocular structures. Patients may present with eye pain, vision loss, floaters or photophobia. The diagnosis of ocular syphilis includes serologic evidence of syphilis and clinical symptoms or signs consistent with ocular disease, but there are almost no eye findings that are absolutely specific for syphilis. As ocular syphilis may be associated with neurosyphilis, a lumbar puncture should be performed (Powell and Carbo, 2017). The United States Center for Disease Control and Prevention recommends performing a lumbar puncture to evaluate for neurosyphilis in all individuals with ocular syphilis.

Examination of the CSF is mandatory in patients with syphilitic optic neuritis to confirm the diagnosis of neurosyphilis and subsequently to plan treatment. Major indications of performing a lumbar puncture in patients with ocular syphilis are: 1) syphilis with neurological involvement, 2) re-treatment of patients with a relapse, 3) before treatment with a non-penicillin regimen, and 4) infants with congenital syphilis (Dutta et al., 2017). In our case, lumbar puncture wasn't performed by neurology department. This is a weakness in our report,

because if the VDRL from the cerebrospinal fluid was positive, we can make a definitive diagnosis of ocular syphilis. Up to 70% of patients with ocular syphilis will have evidence of neurosyphilis in lumbar puncture (Herbort, 2011). Neurosyphilis was one of the manifestation of tertiary stage of syphilis, when *T. pallidum* invade central nervous system. It usually happened in the interval of 5 – 12 years after primary infection (Indriatmi, 2017). We should suspected neurosyphilis when the patient had a symptoms of headache, neck stiffness, memory loss, weakness of extremity, and personality disorder. Our patient complained about a headache. From MRI scan, none of any problem was found.

In HIV-infected individuals with syphilis, atypical clinical manifestations are not uncommon. More severe clinical manifestations, lack of response to penicillin therapy and inappropriate antibody responses, have been described in the literature. The ocular manifestations of syphilis are diverse since it can involve any anatomical structures of the eye. In a study of 22 cases of ocular syphilis in HIV negative individuals, non-granulomatous anterior uveitis was the most common presentation (18/22)

(Wells et al., 2017). Although anterior uveitis is common in immunocompetent individuals, posterior segment involvement has been described more commonly in HIV-infected individuals with advanced stages of immunosuppression. Ocular syphilis may be complicated by central nervous system involvement, thus investigation for neurosyphilis should be considered especially for patients with AIDS. Another study reported a high proportion of neurosyphilis in HIV-infected patients with syphilitic uveitis; 7 of 9 patients (77.8%) demonstrated CSF abnormalities (Herbort, 2011). Even with no evidence of neurosyphilis, syphilitic retinitis should be treated with the same regimen for neurosyphilis; a 10–14 day course of intravenous penicillin is recommended. Syphilitic retinitis generally responds well to penicillin therapy with good visual outcome (Dutta et al., 2017). Another weakness in our report was this patient wasn't given any treatment for his retinitis. If it was caused by syphilis, we should give the treatment as the same as neurosyphilis, i.e. intravenous aqueous crystalline penicillin G 18–24 million units per day for 10 to 14 days (Dutta et al., 2017).



Figure 1: Red patches on both of palms.



Figure 3: Red Patches on right sole.



Figure 2: red patches on left sole.



Figure 4: Red Patches on scrotum.

4 CONCLUSION

We report a case of HIV-infected male with secondary syphilis lesions in both of palms and soles, and the scrotum. The lesions improved after being given Benzatin Penicillin G 2,4 million IU intramuscularly. Complaints of visual disturbance, especially in the left eye, was assessed as retinitis syphilis by ophthalmologist department. It's important for a clinician to suspected ocular syphilis in a syphilis patient with visual complaint, as ocular syphilis could be happened in any syphilis stadium.

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