

Syphilis: A Rare Cause of Acute Hepatitis

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Abstract

Syphilis is a sexuality transmitted disease caused by *Treponema pallidum*. Its incidence has started to increase in the world, especially in hiv-infected patients. Liver involvement in syphilis is a very rare condition and usually occurs in the second phase of the disease where the brain, skin and genital organs are involved. This liver damage referred to syphilitic hepatitis generally is mild clinical condition that presents with disproportionately increased alkaline phosphatase and slightly high transaminase. Elevated liver enzymes levels are a common encountering problem in clinical practice. Generally diagnosing the disease is very difficult and time-consuming. A variety of diseases has been identified the etiology of the cause of this elevation. Secondary syphilis, rarely developed acute hepatitis is one of these diseases. Therefore, It should be included in the early differential diagnosis if the patients has liver dysfunction of uncertain etiology and high risk sexual behaviors.

Key words: syphilis; rash; hepatitis

Introduction:

Syphilis is an infection caused by *Treponema pallidum*, it mostly transmitted by sexual contact. With increasing high rate in especially among men who have sex with men, Its incidence has started to increase in the world [1,2]. The bacterium penetrates into skin and mucosa and then disseminated systemically all of the body in secondary stage. This disease may affect many organs such as brain, skin, and genitalia in this stage. The involvement of liver is very uncommon presentation of the disease. It is estimated that 3% of secondary syphilis cases can develop hepatitis [3]. Here, we present a case of secondary syphilis characterized by hepatitis.

Case:

30 year-old man was admitted our hospital with 4 weeks of fatigue and generalized rashes all over the body. He subsequently referred to our department for assessment of the elevated hepatic enzyme levels. On dermatological skin exam, there were faint, erythematous, ovaloid macular rashes measuring 5-20 mm especially on trunk and erythematous, itchy, flat papules and plaques were seen on the skin including distal extremities , bilateral medial inguinal regions and the upper-medial thigh [Fig.1].



Fig.1: Erythematous, flat papules and plaques on the upper-medial thigh

On his medical history, he had sexual intercourse with multiple partners before admission and he saw painless genital ulcer on the glans penis 8 weeks ago. Therefore, medical treatment such as acyclovir cream and topical corticosteroid were given for this ulcer. The lesion later healed completely. There was no history of alcohol abuse and toxic drug use. On abdominal ultrasound, hepatomegaly was seen. Laboratory values were as follow: Alkaline phosphatase: 739 IU/L (normal 30–120 IU/L), Alanine aminotransferase (ALT): 323 IU/L (normal 0–50 IU/L), Aspartate aminotransferase (AST) :161 IU/L (normal 0–50 IU/L), Total bilirubin : 0.32mg/dl (normal 0.3–1.2 mg/dl) and TPHA and titer of VDRL were positive at 1/128 and 1/64 respectively. Serologies of viral

hepatitis and HIV were negative. We did not find any disease to explain the liver dysfunction except for secondary syphilis. Positive serology for syphilis together with the clinical manifestation including generalized rashes, previous genital ulcer, elevated hepatic transaminase especially high alkaline phosphatase, we considered as secondary syphilis characterized by hepatitis. Penicillin G benzathine (2.4 million units intramuscularly) was administered. The rashes and the abnormal liver function tests rapidly started to fall (**Table 1**) but the normalization of elevated liver enzymes took a month. The patient was doing well and no recurrence at the last follow-up visit.

| Pre-treatment | | | | Post-treatment | | | |
|---------------|-----|-----|-----|----------------|-----|-----|-----|
| ALT | 323 | 247 | 227 | 117 | 59 | 36 | 30 |
| AST | 161 | 133 | 135 | 59 | 40 | 28 | 25 |
| ALP | 739 | 699 | 887 | 550 | 295 | 252 | 144 |
| GGT | 530 | 419 | 442 | 322 | 197 | 117 | 61 |

Table 1: The fluctuation of hepatic enzymes level during the treatment

Discussion:

Syphilis is a systemic disease and is recognized to affect a wide range of organs such as the liver. Acute hepatitis is extremely uncommon presentation of the disease and is observed in secondary syphilitic stage. With dissemination of the bacterium into all of the body, this infection is generally presented with constitutional symptoms, non-pruritic macular rash and adenopathies. Unlike non pruritic eruption, pruritic skin rash may be very rarely seen in the course of the disease [4]. Syphilitic hepatitis has four diagnostic criteria including elevation of liver enzyme levels, positive serology for syphilis with secondary syphilis with acute symptoms and signs, rapid recovery of hepatic injury after treatment, the exclusion of other cause of liver damage [5]. The case met all of the criteria. Contrary to predominance of elevated AST and ALT, as in this case, it presents with disproportionately increased alkaline phosphatase and slightly high transaminase [6]. Syphilitic hepatitis generally is mild clinical condition. The disease responds well to appropriate antimicrobial therapy.

As a conclusion, diagnosing elevated liver enzymes levels is a common encountering problem in clinical practice. Generally diagnosing the disease is very difficult and time-consuming. A variety of diseases has been identified the etiology of the cause of this elevation. Secondary syphilis, rarely developed acute hepatitis is one of these diseases. Therefore, It should be included in the early differential diagnosis if the patients has liver dysfunction of uncertain etiology and high risk sexual behaviors.

Conflict of Interests

There is no conflict of interest

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