

■ SHORT COMMUNICATION ■

ACUTE VIRAL HEPATITIS C-INDUCED JAUNDICE IN PREGNANCY

Tsung-Ying Hsieh, Chen-Hsiang Yu*, Pao-Lin Kuo, Fong-Ming Chang
Department of Obstetrics and Gynecology, National Cheng Kung University Medical
College and Hospital, Tainan, Taiwan.

SUMMARY

Objective: Acute viral hepatitis C-induced jaundice in pregnancy is very rare and may be fatal. Here, we report a complicated case with acute hepatitis C-induced jaundice in pregnancy with successful management.

Case Report: A 27-year-old pregnant woman, gravida 2, para 1, with gestational age of 36 weeks and 5 days, was referred to our hospital due to jaundice and elevated liver enzymes of undetermined cause. She had been suffering from general weakness, diarrhea and vomiting for 1 week, and jaundice with tea-colored urine for 3 days. At our medical center, acute viral hepatitis C-induced jaundice was suspected. Since her general condition deteriorated at 36 weeks and 6 days of gestation, we decided to induce labor. A male baby was born smoothly via the vaginal route, with birth weight 2,857 g, birth length 48.6 cm, and 1- and 5-minute Apgar scores of 7 and 9, respectively. Maternal condition improved dramatically after delivery and her serum liver enzymes and bilirubin levels gradually approached normal ranges.

Conclusion: Mothers and fetuses with acute viral hepatitis C-induced jaundice during pregnancy are at great risk of mortality and morbidity. Timely termination may be one of the choices of treatment when fetal maturity has been reached and the maternal condition has deteriorated. [*Taiwanese J Obstet Gynecol* 2006;45(2):180-182]

Key Words: acute viral hepatitis C, jaundice, pregnancy

Introduction

Severe liver dysfunction with jaundice in late pregnancy is an unusual and important event, because it can progress very rapidly to fulminating status and mortality. The major causes of liver dysfunction with jaundice are acute viral hepatitis, acute fatty liver of pregnancy, tetracycline-induced liver damage, preeclampsia-related liver disease, and "HELLP". Among them, there are limited data available on the frequency, clinical outcome, or vertical transmission rate of acute hepatitis C virus (HCV) infection with jaundice during pregnancy in the medical literature [1-5]. Here, we present a patient with acute HCV infection and jaundice during pregnancy.

Case Report

A 27-year-old pregnant woman, gravida 2, para 1, with gestational age of 36 weeks and 5 days, was referred to our hospital due to jaundice and elevated liver enzymes without identified causes. She had been suffering from general weakness, lassitude, diarrhea and occasional vomiting for 1 week, and jaundice with tea-colored urine for about 3 days. Her past medical history was unremarkable and she denied alcohol consumption or smoking, needle-stick injury, history of recent multiple transfusion, and history of intravenous drug abuse. There was no evidence of preeclampsia, since no hypertension (blood pressure 105/62 mmHg) was noted in the outpatient department. Laboratory examinations during admission (36 weeks and 5 days) showed white blood cell count of $8.3 \times 10^9/L$, hemoglobin 114 g/L, PT/APTT 12 seconds (control 12.35 seconds)/25.4 seconds (control 28.2 seconds), glucose (AC) 93 mg/dL, GOT/GPT 599/811 U/L, bilirubin total/direct 6.4/5.7 mg/dL, alkaline phosphatase 224 U/L, and LDH 321 U/L.

*Correspondence to: Dr Chen-Hsiang Yu, Department of Obstetrics and Gynecology, National Cheng Kung University Medical College and Hospital, 138 Victory Road, Tainan 70428, Taiwan.
E-mail: mchhydr@mail.ncku.edu.tw
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Abdominal ultrasonography showed normal liver parenchymal echopattern without cholestasis. The radio-immunoassay of serology showed hepatitis B surface antigen (HBsAg) negative, hepatitis B envelope antigen (HBeAg) negative, hepatitis A viral immunoglobulin-M (HAV-IgM) negative, and HCV antibody (HCV Ab) trace. Therefore, acute hepatitis C with jaundice in pregnancy was suspected.

Unfortunately, maternal general condition on the 2nd day of admission (36 weeks and 6 days) showed remarkable deterioration. Her laboratory data did not show any improvement (Figure). After taking the fetal and maternal risks into consideration for ongoing pregnancy, induction of labor with PGE1 was undertaken. A male baby was born smoothly via the vaginal route at 36 weeks and 6 days, with birth weight of 2,857 g, birth length of 48.6 cm, and 1- and 5-minute Apgar scores of 7 and 9, respectively. Dramatically, maternal condition improved after delivery and the patient was discharged 3 days later.

Serologic HCV antibody titer at 3 weeks postpartum showed 28 times elevation compared with the original data during the 1st day of admission (HCV antibody: trace). In contrast, at 2 months postpartum, both serum GOT and bilirubin levels fell gradually to approach normal ranges, with GOT/GPT 47/107 U/L (normal, 5–40/5–55 U/L) and bilirubin-total 0.9 mg/dL (normal, 0.2–1.4 mg/dL).

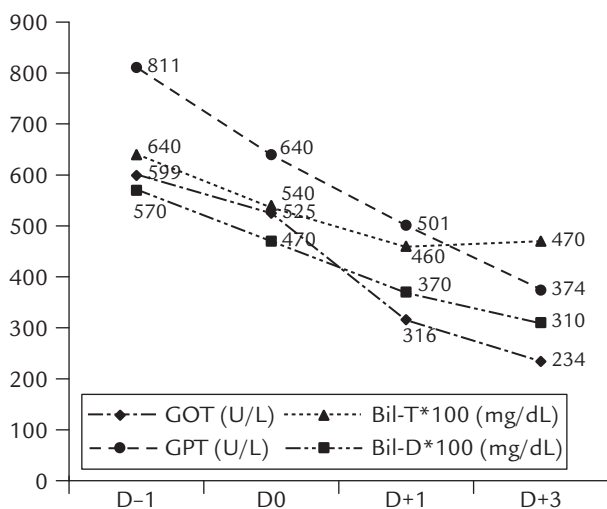


Figure. After delivery, the maternal general condition improved and liver enzymes began to fall. Therefore, the patient was discharged 3 days postpartum. GOT = glutamic oxaloacetic transaminase; GPT = glutamic pyruvic transaminase; Bil-T = bilirubin-total; Bil-D = bilirubin-direct; D-1 = 1 day before delivery; D0 = delivery day; D+1 = 1st day postpartum; D+3 = 3rd day postpartum.

Discussion

Mothers and fetuses with acute HCV-induced jaundice during pregnancy are at great risk of maternal mortality and morbidity. Common causes of maternal death with jaundice in pregnancy are hepatic failure and postpartum hemorrhage due to coagulation failure [6]. Although acute viral hepatitis (AVH) is the most common cause of jaundice in pregnancy, HCV-induced jaundice is extremely rare. Khuroo and Kamili [6] reported that among AVH in pregnant women, the incidences of viral hepatitis A, B, C, D, E, and non-A-to-E (HNAE) were 1.5, 15, 1.7, 1.5, 49.6, and 30.7%, respectively. Distinguishing the various types of viral hepatitis requires not only a detailed history with risk stratification, but also appropriate serologic marker follow-up.

The differential diagnoses for jaundice in pregnancy include (1) intrahepatic cholestasis of pregnancy, (2) preeclampsia with liver involvement, (3) cholecystitis, (4) cholangitis, (5) alcohol, (6) drug or (7) acute fatty liver of pregnancy (AFLP). In this patient, intrahepatic cholestasis of pregnancy was excluded due to a normal abdominal liver ultrasound. Preeclampsia with liver involvement was excluded due to normal blood pressure. Cholecystitis or cholangitis were excluded by normal physical palpation and normal liver sonography. Alcohol- or drug-induced hepatitis were excluded since she did not have any history of alcohol or drug abuse.

Further, it is important to differentiate between severe AVH and AFLP for the following reasons: firstly, treatment options may be different, as prompt termination of pregnancy is usually required for improving prognosis in AFLP [7]; secondly, long-term prognosis may be different in both groups, with some reports suggesting that AFLP would recur in subsequent pregnancies [8]. From the evolution of serum titers of HCV antibody in this patient, the slow rise in HCV antibody titer favors the diagnosis of HCV infection rather than AFLP. Given the above analysis, the etiology of jaundice in this patient is HCV infection.

For chronic hepatitis C infection without pregnancy, combination therapy with interferon α plus ribavirin is currently considered the standard treatment for patients with chronic hepatitis C [9]. However, regarding the risk to the fetus, ribavirin is categorized as X due to its teratogenic effects in an animal model, and interferon is categorized as C [9]. Therefore, for chronic hepatitis C infection in pregnancy, combination therapy with interferon α plus ribavirin is not recommended. In this patient, the status of hepatitis C viral infection is acute rather than chronic, thus, combination therapy with interferon α plus ribavirin was not considered.

Nevertheless, for acute hepatitis C infection without pregnancy, interferon α is often recommended. In a review of therapy of acute hepatitis C infection without pregnancy, Fried and Hoofnagle [10] concluded that although the efficacy of interferon α in acute hepatitis C has not been demonstrated, it is the only treatment we have to date. In 1997, the National Institutes of Health Consensus Panel of the United States concluded that all patients with acute hepatitis C should be treated with interferon α [11]. Two recent reviews [12,13] reported on interferon treatment for HCV-positive pregnant women, including those with hematologic disorders; there were no abortions or fetal malformations in any case where interferon was used. Based on the available information, in patients with acute HCV infection during pregnancy, the use of interferon therapy may be considered with close monitoring.

Perinatal mortality in maternal AVH with jaundice may be as high as 25–75%, mostly due to prematurity and intrauterine death, especially when postpartum hemorrhage and coagulation failure occur [14]. In this case, we decided to terminate pregnancy due to the advanced fetal age (36 weeks and 6 days of gestation) and the progressively deteriorating maternal condition. From this case report, we learned that timely termination may be one of the treatment choices when fetal maturity is reached and maternal condition is deteriorating.

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