Case Report

Superimposed Hepatitis C Virus in Sickle Cell Disease Pregnant Woman

Abstract

Sickle cell disease (SCD) is a hereditary blood disorder that can increase complications during pregnancy and in turn negatively influence pregnancy outcomes. In addition to patients with SCD are at a high risk of been infected with hepatitis C infection. Furthermore in this study, we reported the clinical status of a pregnant woman with SCD who had hepatitis C virus infection.

Keywords: *Hepatitis C, pregnant, sickle cell disease*

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Introduction

Sickle cell disease (SCD) is an inherited disorder with hemoglobin S. Clinical hallmarks of SCD are vaso-occlusive phenomena and hemolysis. Other related complications in pregnant woman are spontaneous abortion, antepartum bleeding, premature rupture of the membranes, preterm labor, placental abruption, preeclampsia, eclampsia, pyelonephritis and endometritis, thromboembolic events, antepartum bleeding, antepartum hospitalization, use of cesarean delivery, use of blood transfusion, and pneumonia and sepsis.

Because of increased metabolic demands, hypercoagulable state and vascular stasis associated with pregnancy predispose to these complications, when compared to pregnant women without SCD.[1-3]

Although selective prophylactic transfusion seems to reduce certain maternal and fetal complications for sickling process prevention, it often received multiple transfusions that increase the risk of viral hepatitis.[4]

The liver can be affected by some complications due to the disease itself and its treatment, iron overload, and (combined with the effects of chronic hemolysis) the development of pigment gallstones, all of which may contribute to the development of liver disease.

Biochemical and radiological hepatic abnormalities are also common in patients with SCD.[3]

Case Report

A 36-year-old G2 L1 (NVD) known case of SCD presented at 35/4 weeks of gestation with labor pain, decreased fetal movement from 3 days ago without vaginal leakage and bleeding referred to Isfahan Shahid Beheshti Hospital. She had a strong myometrial contraction, cervical dilatation of 3–4 cm, 60% effacement, station + 1, cephalic presentation, and fundal height extent of 34 cm.

Her clinical examination including heart, lung, skin, musculoskeletal, neurologic, and vital sign were normal.

She had a history of preterm delivery due to placental abruption in previous pregnancy at 36/0 weeks and delivered female neonate, body weight was 2780 g, APGAR scores 6–8 in the 1st and 5 min, no affected disease and do not need neonatal intensive care unit (NICU). She had experienced surgery of head femur avascular necrosis and gallbladder stone.

She has received prophylactic transfusion (2 P.C/2W) and prophylactic anticoagulant, pantoprazole and folic acid during present pregnancy, she had admitted sometimes ago in this pregnancy because of preterm labor, but never experienced sickle cell crisis, acute chest syndrome, and urinary or pulmonary infection.

In spite of hydration, sedation, oxygen supplementation for controlling the

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contractions and left lateral position, she delivered with epidural anesthesia for pain relief.[5,6]

She has delivered female neonate, APGAR scores 7 and 8 in the 1st and 5 min, body weight was 2750 g, who no affected disease and do not need NICU admission.

Laboratory data of patient were as follows: Hb = 11.2, HCT = 35.7, PLT = 148,000, aspartate aminotransferase = 90, alanine aminotransferase = 96, uric acid = 7.3, total Bil = 2.9, direct Bil = 1.4, lactate dehydrogenase = 1093, Fe = 337, Retic = 3, urine protein = trace, coagulation test normal, and liver sonography was normal.

We checked serial liver enzyme, viral marker, ceruloplasmin, antineutrophil cytoplasmic antibody, antinuclear antibody, and urine protein in 24 h specimen that liver enzyme did not so much change during 3 days, and remainder test reported normal except hepatitis C virus (HCV) test. We request the emergency department HCV test for baby and extremely baby test was negative. It was recommended to repeat the test after 6 months.

Discussion

What is the best management for these patients?

Mothers with SCD appear to have an increased incidence of preterm delivery and preeclampsia.[7,8]

In high prevalence area, there are some predictive markers of poor pregnancy outcome such as late antenatal booking, anemia, and poor education that prompt recognition and careful management reduce associated morbidity and mortality.[9,10]

Receiving multiple blood transfusions in patients with SCD are major risk factor for liver disease which is associated with infection (hepatitis B and C) and excessive iron stores, but we should not inattention preeclampsia because in addition to preeclampsia, there is an increased morbidity rate for women with SCD.

The risk of vertical transmission of hepatitis C from a chronically infected mother with viremia to the neonate is about 5%.[11]

Infants born to mothers with hepatitis C infection should undergo periodic testing for hepatitis C during the first 18 months of life to detected persistent infection.[12] African-American's hetitance is 1 in 576, but during pregnancy is less common and for infant is dependent of father carries a gene for abnormal Hb.

However, in Iran, there has not been any accurate statistics on this. Therefore, due to the lack of knowledge, about accurate statistics of this disease in pregnancy in our country and the need for more care for this group of patients, it seems that more extensive studies and research in this regard is needed.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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