National Journal of Physiology, Pharmacy and Pharmacology

CASE REPORT

HSV-induced hepatitis in pregnancy - A rare case report

Shilpa Raj, Jisha S Das, Neethu C Mohan

Department of Pharmacy Practice, Amrita School of Pharmacy, Kochi, Kerala, India

Correspondence to: Neethu C Mohan, E-mail: neethucm@aims.amrita.edu

Received: July 11, 2017; **Accepted:** July 30, 2017

ABSTRACT

Hepatitis is mostly occurred by alcohol, drugs, or virus. Herpes simplex virus (HSV) hepatitis is rare and accounts for only 1% of all acute liver failures, but it is a fatal complication. Pregnant women are more vulnerable as the immunological changes during pregnancy suppress T-cell-mediated immunity promoting disseminated infection. Although HSV-associated hepatic failure carries a high-mortality risk, early intervention with acyclovir may prove to be life-saving. Here in, we report a case of 22-year-old female 8 weeks primigravida admitted with complaints of yellowish discoloration of eyes and urine and was provisionally diagnosed to have acute severe hepatitis with no hepatic encephalopathy or liver failure. Immunoglobulin M HSV test was positive, suggestive of HSV-induced hepatitis. Due to severe hepatic failure, living donor liver transplantation (left lobe with middle hepatic vein) was performed. She was treated with antivirals, immunosuppressants, and other conservative treatments. After few days her general condition was good, and laboratory investigations were stable. She was shifted out from intensive care unit. At the time of discharge, she was comfortable, vitals stable and wound was healthy. It should be considered in the differential diagnosis of any case of severe hepatitis with concomitant fever, abdominal pain, and elevated values of liver function tests with or without jaundice. The administration of intravenous acyclovir is inexpensive, without drug interactions, and safe even during pregnancy. Clinicians should be aware of HSV-induced hepatitis in immunocompromised patients and its risk factors.

KEY WORDS: Herpes Simplex Virus; Hepatitis; Liver Transplantation

INTRODUCTION

Hepatitis is mostly occurred by alcohol, drugs, or virus. Herpes simplex virus (HSV) hepatitis is rare and accounts for only 1% of all acute liver failures, but it is a fatal complication. It is most commonly seen in immunocompromised patients, neonates, pregnancy, and its presentation can be similar to acute hepatitis anicteric transaminitis, fever, leukopenia, and flu-like symptoms.[1] It is also characterized by fulminant hepatic necrosis with serum transaminase levels frequently elevated. Pregnant women are more prone to HSV infection since the immunological changes during pregnancy suppress the T-cell mediated immunity thereby promoting disseminated infection.[2] During pregnancy, the misinterpretation of signs and symptoms may delay the diagnosis, and in some cases, the patients are diagnosed during autopsy. Although HSV-associated hepatic failure during pregnancy is life-threatening, timely diagnosis and early management with antiviral therapy is found to be life-saving.[3] HSV associated with pregnancy may lead to considerable morbidity and in some cases, it may even contribute to mortality.[4] Here, we report a case of HSV-induced Hepatitis.

Access this article online	
Website: www.njppp.com	Quick Response code
DOI: 10.5455/njppp.2018.8.0726730072017	

CASE REPORT

A 22-year-old female, 8 weeks primigravida came to the hospital with complaints of yellowish discoloration of the eyes and urine since 2 weeks. She also had complaints of vomiting which is associated with pregnancy. She was diagnosed to have acute severe hepatitis with no hepatic encephalopathy or liver failure. Laboratory investigation showed increased total bilirubin (13.64 mg/dl, normal: 0.2-1.2 mg/dl), direct bilirubin (6.63 mg/dl, normal: 0.0-0.2 mg/dl), serum glutamic oxaloacetic transaminase (3344 mg/dl, normal: 15-35 mg/dl), serum glutamic-pyruvic transaminase (2224 mg/dl, normal: 5-45 mg/dl), raised INR, increased inflammatory markers with neutrophillic leukocytosis, increased lactate dehydrogenase, and decreased uric acid. Pre-operative serology was negative. Tests for HAV, HBsAg, HCV, and HEV were negative and immunoglobulin M (IgM) HSV, IgM HEV reports were awaited. An obstertic consultation was sought and a live intrauterine fetus was confirmed. She was treated symptomatically with udiliv (ursodeoxycholic acid), bronac (N-acetylcystine), folvite (folic acid), antiemetics, and other supportive measures during the hospital stay.

The nature of her illness and various therapeutic options were explained in detail to the patient bystanders. However, they wanted to get discharged. Hence, she got discharged against medical advice. She took Ayurvedic medicines after discharge and her jaundice worsened. Again, she came to our hospital with worsening of liver function and was diagnosed to have fulminant hepatic failure with a non-viable intrauterine fetus. The awaited IgM HSV result was positive and IgM HEV result was negative. Hence, a final diagnosis of HSV-induced hepatitis was confirmed and was started on injection. Acyclovir 500 mg TID later switched over to Tab. Acyclovir 200 mg BD. Due to severe hepatic failure the need for liver transplantation was discussed. After obtaining consent and pre-anesthetic evaluation, she was taken up for surgery; initially she underwent evacuation of products of conception. A living donor liver transplantation [left lobe with middle hepatic vein] was performed. Donor being her husband. Intraoperative and post-operative periods were uneventful. Post-operatively, she was shifted to intensive care unit (ICU) for further observation and care.

She was started on immunosuppression with methyl prednisolone, cellcept (mycophenolate mofetil) and tacrolimus according to the transplant protocol. The dose of tacrolimus was adjusted according to laboratory values. Blood culture grew *Elizabethkingia meningoseptica*, and was started on sensitive antibiotics (vancomycin). ultrasonography abdomen with Doppler was done periodically to assess the state of grafted liver and was normal. During ICU stay, she had bleeding PV, for which gynecology consultation was sought, and their advice was followed. Gradually, her condition improved and shifted to ward. Post-operative sugars were high for which endocrine consultation was obtained and advised for Insulin administration. After few days, her general condition was good and laboratory investigations were stable. At the time of discharge, she was comfortable, vitals stable and wound was healthy.

DISCUSSION

Hepatitis due to HSV is rare. Hepatitis due to HSV is associated with high morbidity and mortality if untreated. Accurate diagnosis is delayed due to non-specific symptoms and lack of understanding of this diagnosis. However, it is difficult to differentiate this infection from other forms of hepatitis. However, the condition is reversible if diagnosis is proper. Here, we demonstrated a similar finding as that of "HSV hepatitis: An analysis of the published literature and institutional cases," liver transplantation, vol. 13, no. 10, pp. 1428,2007.[1] Delayed treatment with acyclovir in pregnant women and immunocompromised patients presenting with fulminant liver failure, may progressively result in the reduction of liver parenchyma which leads to liver transplantation. Early acyclovir therapy may prevent the risk for mortality and also reduce the need of liver transplantation. Pregnant women are more prone to HSV infection since the immunological changes during pregnancy suppress the T-cell mediated immunity thereby promoting disseminated infection.[5,6] HSV-associated with pregnancy may lead to considerable morbidity and in some cases, it may even contribute to mortality.[4] According to a study conducted by Grossman et al., weekly culturing of all previously infected genital sites including cervix from 36 weeks of gestation till the day of delivery is considered as an admissible plan for the management of HSV-related complication during pregnancy.[7]

CONCLUSION

During pregnancy, the diagnosis of HSV hepatitis is intricated. In case of any severe hepatitis associated with abdominal pain, concomitant fever, elevated liver enzymes with or without jaundice, consideration should be given for the diagnosis of HSV. In addition, in our case, we clearly illustrated how hazardous the situation will be if the diagnosis and treatment delays. Among the antivirals, the administration of intravenous acyclovir is safe during the pregnancy, inexpensive, and free from drug interactions. Clinicians should be aware of HSV-induced hepatitis in immunocompromised patients and its risk factors.

REFERENCES

1. Norvell JP, Blei AT, Jovanovic BD, Levitsky J. Herpes simplex virus hepatitis: An analysis of the published literature and institutional cases. Liver Transpl. 2007;13(10):1428.
2. van Doornum GJ, Guldemeester J, Osterhaus AD, Niesters HG.

Diagnosing herpesvirus infections by real-time amplification and rapid culture. J Clin Microbiol. 2003;41(2):576-80.
3. Chase RA, Pottage JC Jr, Haber MH, Kistler G, Jensen D, Levin S. Herpes simplex viral hepatitis in adults: Two case reports and review of the literature. Rev Infect Dis. 1987;9(2):329-3.
4. Grossman JH 3rd, Wallen WC, Sever JL. Management of genital herpes simplex virus infection during pregnancy. Obstet Gynecol. 1981;58(1):1-4.
5. Kang AH, Graves CR. Herpes simplex hepatitis in pregnancy: A case report and review of the literature. Obstet Gynecol Surv. 1999;54(7):463-8.
6. Kaufman B, Gandhi SA, Louie E, Rizzi R, Illei P. Herpes simplex virus hepatitis: Case report and review. Clin Infect Dis. 1997;24(3):334-8.
7. Joy J, Thamp A, Kumar G, Sreekrishnan TP, Ajith V. A case report on role of N-acetylcysteine in non-acetaminophen-related acute liver injury. Asian J Pharm Clin Res. 2016;9:7-8.

How to cite this article: Raj S, Das JS, Mohan NC. HSV-induced hepatitis in pregnancy - A rare case report. Natl J Physiol Pharm Pharmacol 2018;8(1):139-141.

Source of Support: Nil, **Conflict of Interest:** None declared.