

INCIDENCE OF VIRAL HEPATITIS AMONG WOMEN ADMITTED TO LABOUR WARD AT MISRATA CENTRAL HOSPITAL

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ABSTRACT

It is imperative for pregnant women to know their hepatitis status to prevent transmission to their newborn during delivery. Serological screening for viral hepatitis should be offered to pregnant women, as babies born to a mother with hepatitis B have 90% chance of developing chronic hepatitis B if they are not properly treated at birth. So postnatal intervention can be offered to women infected with Hepatitis B to decrease such risk of transmission. To evaluate the incidence of viral hepatitis among women in their third trimester admitted to labour ward, and to determine the magnitude the problem in our locality. A retrospective study was conducted targeting all women delivered in the Department of Obstetrics & Gynaecology at Misrata Central Hospital; patient's data was obtained from medical records of these women during the year 2016. All of them were screened for viral infections (Hepatitis B & C as well as HIV) during their antenatal care in the third trimester. During delivery proper preventive techniques are implemented, including effective 'decontaminate the hands', and use rigorous infection control procedures. For needle stick injuries or splash of body fluid with hepatitis B are recorded and immune prophylaxis is given. Appropriate hygienic precautions should be taken for newborn. In addition to routine vaccination; newborn to HBsAg-positive mothers should receive passive immunization with HBIG at birth. A total of 7142 deliveries including 156 multiple births were recorded. Of them 52 had viral hepatitis B giving an incidence of 0.7%. Hepatitis B represented 91.2% of the cases while hepatitis C accounted for 9.8% of the cases. They were aged between 18 and 42 years. 90% of them were Libyan and 48% were resident outside Misrata. 79% were multiparous. Of the total cases 32.7% were delivered by Cesarean section. The current study revealed a low incidence of Hepatitis B and C in our locality.

KEY WORDS: Pregnancy, Hepatitis B, Transmission, Immune prophylaxis.

INTRODUCTION

Prompt identification of chronic infection with viral Hepatitis B (HBV) enables infected pregnant woman to receive necessary care to prevent or delay onset of liver disease and to receive services to prevent transmission to newborn. While parenteral transmission is still common in children living in developing countries, perinatal transmission is now the leading cause of HCV transmission in developed countries. The absence of an HCV vaccine or approved therapy during pregnancy means that prevention of vertical transmission is still not possible. However, a low vertical transmission rate of 3–5%, a high rate of spontaneous clearance (25–50%) and delayed morbidity have resulted in HCV being overlooked in pregnant women and their infants⁽¹⁾. The risk of vertical transmission of HBV is 70–90% when the woman is hepatitis B e antigen (HBeAg) positive, and around 40% when HBeAg is absent. So Screening for infectious diseases is an integral aspect of antenatal care⁽²⁻⁵⁾. Routine screening is offered to all pregnant women on the basis that early detection and treatment can reduce adverse perinatal outcomes. Intrauterine hepatitis B virus infection has been suggested to be caused by transplacental transmission that cannot be blocked by hepatitis B vaccine. This would decrease the effectiveness of hepatitis B vaccine. The main risk factors for intra-

uterine HBV infection are maternal serum HBeAg positivity, history of threatened preterm labor, and HBV in the placenta especially the villous capillary endothelial cells⁽⁶⁾. Maternal infection with either HBV or HCV has been linked to adverse pregnancy and birth outcomes, including mother-to-child transmission (MTCT). HBV infection does not carry a higher risk of birth defects, but seems to be associated with a higher incidence of low birth weight among infants born to mothers with acute infection during pregnancy⁽⁷⁾. In a previous study; acute maternal hepatitis (type B or nontype B) had no effect on the incidence of congenital malformations, stillbirths, abortions, or intrauterine malnutrition. However, acute hepatitis did increase the incidence of prematurity⁽⁸⁾. Although MTCT for HBV has been reduced to approximately 5% overall in countries those have instituted postpartum neonatal HBV vaccination and immunoprophylaxis with hepatitis B immune globulin⁽⁹⁾. Chronic hepatitis B virus infection remains endemic in many parts of the world and there are over 2 billion infected individuals worldwide⁽¹⁰⁾. High prevalence regions for HBV were found in Sub-Saharan Africa, most of Asia and the Pacific Islands⁽¹¹⁾. Our objective is to evaluate the incidence of viral hepatitis among women in their third trimester admitted to labour ward, and to determine the magnitude the problem in our locality.

MATERIAL & METHODS

A retrospective study was conducted targeting all women delivered in the Department of Obstetrics & Gynaecology at Misrata Central Hospital; patient's data were obtained from medical records of these women between 1st of January to 31st of December 2016.

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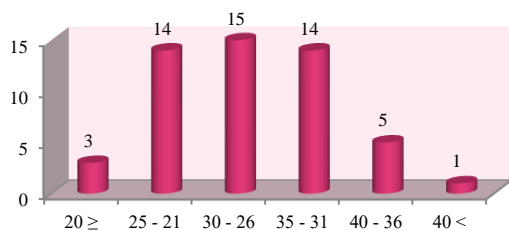
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During this period there were 7142 births including 2816 Cesarean births. The data was collected, analyzed and statistical comparison using test of difference of proportions Z-score statistic at 5% of significance where appropriate. As Preventive Services; all pregnant women were screened for viral infections including Hepatitis B & C as well as HIV by ELISA techniques during their antenatal care in the third trimester, regardless of previous testing or vaccination. Liver function tests should also be performed in women who are HBsAg positive as an assessment of liver damage after confirmation by PCR techniques. Also, patient's family screening and immunization will be carried out during antenatal care. Women arriving in labour who have not received antenatal care or have not screened before are to be offered infectious diseases screening after her admission to Labour Ward.

Prevention of perinatal HBV infection begins with good communication regarding maternal HBV status before delivery and Patient's education about the need for infant immune prophylaxis at birth. During delivery proper preventive techniques are implemented, all staff should follow rules on infection prevention by ensuring that they effectively 'decontaminate their hands' before and after each procedure and use rigorous infection control procedures. For needle stick injuries or splash of body fluid to eyes/mouth from patients with hepatitis B are recorded and immune prophylaxis is given. Also, appropriate hygienic precautions should be taken for newborn. In addition to routine vaccination; infants born to HBsAg-positive mothers should receive passive immunization with HBIG at birth (preferably within 12 hours of birth).

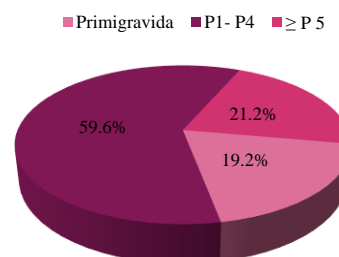
RESULTS

A total of 7142 deliveries including 156 multiple births were recorded. Of them 52 had viral hepatitis B giving an incidence of 0.74%. Hepatitis B represented 91.2% of the cases while hepatitis C accounted for 9.8% of the cases giving an incidence of 0.07%. All patients with viral hepatitis either B or C were chronic cases and had not received any treatment regarding the viral hepatitis during the course of pregnancy. They were aged between 18 and 42 years, and most common age group was that between 26 and 30 years old represented 28.8% of the total cases of chronic HBV; (figure 1) shows age distribution of patients having HBV. Majority of the cases having HBV (90%) were Libyan and 48% were resident outside Misrata.



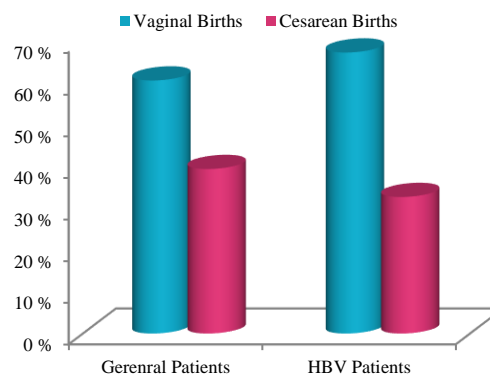
(Figure 1) Distribution of women according to age.

Regarding parity; 19.2% were primigravidae while grandmultiparae represented 21.2% of the total cases of HBV shown in (figure 2).



(Figure 2) Distribution of women according to parity

Of the total cases of HBV; 32.7% were delivered by Cesarean section which is lower as compared to the general Cesarean section rate (39.4%) during the study period however the difference was not significant, (figure 3). There was one maternal death because of postpartum hemorrhage; she had history of recurrent epistaxis and hepatomegaly.



(Figure 3) Mod of delivery

DISCUSSION

Hepatitis B virus (HBV) infection is a worldwide health problem. The World Health Organization (WHO) estimates that more than 2 billion people have been infected with HBV virus at some point in their lives and 350 million people through the world continue to carry chronic HBV infection, of which almost one million die annually because of HBV-related liver disease⁽¹²⁾. Mother-to-child transmission of HBV has been recognized as the major cause of chronic HBV infection, particularly in highly endemic areas such as Southeast Asia and Africa⁽¹³⁾. Therefore, prevention of mother-to-child transmission of HBV is the cornerstone to control the infection. Active or passive immunization or both reduces the risk of vertical transmission by 90%⁽¹⁴⁾. Routine antenatal screening for hepatitis B by Elisa techniques for all pregnant women before labour became a policy in our Department of Obstetrics & Gynaecology since 2013. Pregnancy is not a contraindication to vaccination, so pregnant women at risk for HBV infection should receive hepatitis B vaccination^(15,16). Also administration of HBIG or antiviral

therapy to HBV carrier mothers during pregnancy is effective in reducing MTCT⁽¹⁷⁾.

Worldwide, the majority of persons with CHB were infected at birth or in early childhood. While the incidence of hepatitis C virus infection among pregnant women included in our study was very low (0.07%) comparing to that reported worldwide between 1 and 8%⁽¹⁾; the incidence of hepatitis B in pregnant women in our study was found to be 0.74% of the total reviewed parturients during the year 2016. The vast majority was known cases of viral Hepatitis B, and few infected women were newly diagnosed in pregnancy and not already under the care of infectology services. Our finding of low incidence is much lower than previously reported in China which was 6.7%⁽¹⁸⁾. Zhang L et al.⁽¹⁸⁾ concluded that the passive-active immunization is necessary for neonates of HBeAg-positive mothers. Our finding regarding maternal age revealed that the commonest age group was between 26 and 30 years old, Zhang L et al.⁽¹⁸⁾ Mother's age < 28 years and neonate receiving vaccine only were the risk factors for HBV mother-to-infant transmission. Additionally; they have reported that breastfeeding did not put children at risk of our policy regarding mode of delivery of women with HBV positive; if no contraindication for vaginal delivery they can deliver vaginally and no routine for elective Cesarean section, only one-third of studied cases (32.7%) delivered by Cesarean section for different indications. While it has been proposed that elective caesarean section may be a means to reduce mother to child transmission, mode of delivery has not been shown to affect perinatal transmission rates in most studies^(9,20). However Pan CQ et al.⁽²¹⁾ have found a significantly lower rate of vertical transmission of HBV infection to infants delivered by elective Cesarean Section, compared with those delivered vaginally or by urgent Cesarean Section. Furthermore; elective cesarean sections for HBeAg-positive mothers with pre-delivery levels of HBV DNA $\geq 1,000,000$ copies/mL could reduce vertical transmission. It was concluded that with the recommended immunoprophylaxis against hepatitis B, elective cesarean sections did not reduce the risk of mother-to-child transmission of HBV. Therefore, elective cesarean sections should not be used in HBsAg-positive pregnant women to prevent mother-to-child transmission of HBV⁽²²⁾.

CONCLUSION

The current study revealed a low incidence of Hepatitis B and C in our locality

RECOMMENDATIONS

We should enhance identification of HBV infections through screening all pregnant women in their early pregnancy, so can screen the family's members, plan for antiviral medication to women with a high level of virus in the blood to minimize the risk of transmission, and also can refer them for hepatologist.

An educational program should be implemented to increase the patient's awareness of their chronic HBV infection

We should enhance infection control practice, education, and enforcement are critical strategies including vaccination of all health care workers. Also, medical devices should be used correctly for every patient to eliminate mother-to-child transmission of HBV.

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