



The Incidence of Hepatitis B Surface Antigen Positive Pregnant Women Admitted and Delivered at Camiguin General Hospital, Mambajao, Camiguin

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ABSTRACT

This study sought to investigate the incidence of mothers who are Hepatitis B surface antigen positive at Camiguin General Hospital for December 2005 and January 2006. This study sought to find out cases of pregnant women with positive hepatitis B surface antigen who delivered at Camiguin General Hospital, number of babies born from mothers who are positive of hepatitis B surface antigen, and were given immunoprophylaxis 12 hours after delivery, and the profile of the mothers who had hepatitis B surface antigen positive as to age, educational status, economic status and awareness of the result of hepatitis B surface antigen. Pregnant women admitted were checked for Hepatitis B surface antigen, and the study reveals that out of seventy (70) pregnant mothers admitted and delivered, fifty-eight (58) were examined for Hepatitis B surface antigen, and twelve (12) were not examined. Three (3) of the mothers were found positive for Hepatitis B surface antigen, with three (3) babies born to mothers who are positive for Hepatitis B surface antigen and were given Hepatitis B vaccine with a dose of 0.5 ml and Hepatitis B immunoglobulin with a dose of 0.5 ml at birth. The three mothers are in their early twenties, single, first-time mothers, undergraduates, and jobless, and knew the result of the Hepatitis B surface antigen before delivery. The researchers concluded that there might be a bigger population of Hepatitis B surface antigen-positive mothers at Camiguin Island, but they have not been diagnosed. Proper prenatal care for mothers shall be given to minimize cases of Hepatitis B surface antigen, and mandatory examination of Hepatitis B surface antigen for all pregnant women shall be conducted, since prenatal transmission

of the disease is the mode of transmission that perpetuates the disease.

Keywords: Hepatitis B Surface Antigen, Pregnant Women

INTRODUCTION

Viral hepatitis is a primary liver infection caused by at least five viruses: Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D, and Hepatitis E (Borkowsky, 2003). The most important risk factor for acquiring the Hepatitis B virus in children is perinatal exposure or during delivery to a Hepatitis B surface antigen-positive mother.

According to Snyder et. al. (2003), during the neonatal period, hepatitis B antigen is present in the blood of two-point-five percent (2.5%) of infants born to affected mothers, indicating that intrauterine infection occurred.

Hepatitis B is a disease that affects human beings of diverse age groups. It affects the liver of human beings and is transmitted via blood and blood products, needle pricks, sexual contact, and from the infected mother to her baby during delivery. Babies born to an infected mother have a 90 to 95 percent chance of contracting HBV during childbirth. If a baby is infected, the virus remains in its body for many years, silently attacking liver cells and eventually leading to cirrhosis or, in some cases, cancer of the liver. Even though an infected baby may show few or no signs of infection, the infant continues to be infectious and can pass the virus on to others (Encarta, 2003). Hepatitis B not only affects the mother and the baby. It can be transmitted to other siblings, sexual partners, and close household contacts. It is therefore very important for the above-named persons to be aware of the existence of such a disease and be taught how to protect themselves from contamination.

However, the complications of Hepatitis B are preventable through vaccination. This vaccination has a crucial period during which it has to be administered to be assured of its effect. The mentioned vaccines are the Hepatitis B vaccine and Hepatitis B immunoglobulin. The two vaccines should be given to babies born to mothers who are positive for the Hepatitis B surface antigen within twelve hours after delivery of the baby to ensure effectiveness. In remote areas or on islands where the above-mentioned vaccines' supply is nil or nonexistent, such vaccines must be secured and available before the baby's delivery. Hence, prior knowledge of the result of the Hepatitis B surface antigen is very important.

This study is important because it prevents the transmission of the Hepatitis B virus to the babies if early detection is done and immunoprophylaxis is given. This protects the babies from developing hepatic carcinoma later in life if

immunoprophylaxis is done within twelve hours of birth. Another importance of this study is that awareness on the part of the sexual partners and precautionary measures can be raised. Such measures are avoidance of contact with body fluids of the infected partner, use of barrier methods during sexual activity, and advice on immunization to be received. Another is that precautionary measures should be taken by close household contacts once detected. Such measures include avoiding contact with body fluids and immunizing close household contacts. This is also important for the medical and nursing personnel because prior knowledge of the Hepatitis B surface antigen status of the patient, if found out to be positive, enables them to exert extra care to protect themselves from transmitting the virus to them. Such efforts include care not to come in contact with the body fluids of the patient, use of protective materials such as gloves and goggles, and extreme care to avoid accidental needle pricks. If accidental contamination with the body fluids occurs, immunization will be instituted immediately. This is also helpful to hospital patients because prior knowledge of the Hepatitis B surface antigen result, if positive, alerts the infection control committee of the institution to take extra precautions to prevent the transmission of the disease to hospital patients. This is done by isolating the patient from the rest of the other patients and by discarding all the materials used by the patient so that such materials will not be reused, endangering the next patient in line.

STATEMENT OF THE PROBLEM

This study aimed to identify the incidence of Hepatitis B surface antigen-positive pregnant women delivered at Camiguin General Hospital, Mambajao, Camiguin.

It sought to answer the following questions:

1. What is the profile of the mothers with Hepatitis B surface antigen positive in terms of: age, Civil status, educational attainment, occupation, and parity?
2. How many cases of pregnant women with positive Hepatitis B surface antigen were delivered at Camiguin General Hospital?
3. How many babies are born to mothers who are positive for Hepatitis B surface antigen and given immunoprophylaxis twelve hours after delivery?
4. What health intervention can be done for mothers who are Hepatitis B surface antigen positive?

METHODOLOGY

This descriptive and normative study was conducted at Camiguin General Hospital, Mambajao, Camiguin, an island province on the northern tip of Mindanao. Camiguin Island has two hospitals: a primary hospital located in the municipality of Catarman and a secondary hospital run by the government with a one-hundred-bed capacity (100).

Convenience sampling was used to determine the number of respondents to this research, which is fifty-eight (58) pregnant women who delivered at Camiguin General Hospital in December 2005 and January 2006 and were examined for Hepatitis B surface antigen and their respective babies. Due to the physician's examination for hepatitis B surface antigen, documentary analysis was utilized in this study.

The researchers asked permission from the Chief of Hospital at Camiguin General Hospital to conduct a study on all pregnant women who delivered at the hospital. They then went to the hospital to gather the patients' charts.

The total number of pregnant mothers who delivered at Camiguin General Hospital, mothers who were examined for Hepatitis B surface antigen, mothers who were tested positive for Hepatitis B surface antigen, and babies who were given Hepatitis B vaccine and immunoglobulin were recorded. The mothers' profiles included age, civil status, educational status, occupation, parity, and awareness of the result of Hepatitis B surface antigen. After getting all the results, the researchers gave health teaching to the respondents. Health teachings were given as an intervention done to all mothers who are Hepatitis B surface antigen positive which contains things to be done to protect the babies and future babies from being contaminated with Hepatitis B, and things to be done to prevent transmission of Hepatitis B to the sexual partners, close household contacts, medical personnel, nursing personnel and other in hospital patients.

RESULTS AND DISCUSSION

Problem one: *What is the profile of the mothers who had Hepatitis B surface antigen positive in terms of age, civil status, educational attainment, occupation, and parity?*

Three of the mothers who were noted to be positive for Hepatitis B surface antigen are in the twenty-to-thirty-year-old, single, college-level, unemployed age range, and their parity is nulligravida.

Problem Two: *How many cases of pregnant women with positive Hepatitis B surface antigen were delivered at Camiguin General Hospital?*

Seventy (70) mothers were delivered at Camiguin General Hospital from December 2005 to January 2006. Fifty-eight (58) of these mothers were examined for Hepatitis B surface antigen, and twelve (12) mothers were not examined for Hepatitis B surface antigen. Three of the mothers were positive for Hepatitis B surface antigen, which is five-point one percent (5.1%) of the population, and fifty-five (55) of the mothers were negative for Hepatitis B surface antigen, which is ninety-four-point nine percent (94.9%) of the population.

Problem Three: *How many babies are born to mothers who are positive for Hepatitis B surface antigen and given immunoprophylaxis twelve hours after delivery?*

Three babies were born to mothers who are Hepatitis B surface antigen positive, which is five-point one percent (5.1%) of the population.

According to Worman (2005), the Hepatitis B virus causes acute and chronic hepatitis. About ninety percent (90%) of infected neonates will become chronically infected. These three babies will probably develop into chronic hepatitis B infection if appropriate immunoprophylaxis is not instituted for them. Though the researcher is only confronted with three babies, the possibility that these three babies will develop into a chronic hepatitis B infection later on in life is enormous. If such babies can be prevented from developing such illness complications, it is already an enormous help to the family concerned and the community.

All of them were given the Hepatitis B vaccine and Hepatitis B immunoglobulin at birth. These mothers were identified during prenatal care and advised to purchase the medication prior to or near the delivery period. This was done to prevent the delay in administering the medication due to its unavailability on the island.

Problem Four: *What health intervention can be done for mothers who are Hepatitis B surface antigen positive?*

Health teaching in the vernacular was designed and given to educate mothers about Hepatitis B as a health intervention. The health teachings include consultation with a physician for sexual partners, information for the sexual partners on the use of protective barriers during sexual activity to prevent contamination with the virus, what to do with household contacts, and prevention of transmission of the Hepatitis B virus to the medical personnel, the nursing personnel, and the rest of the other in-hospital patients.

CONCLUSIONS

There might be a bigger population of Hepatitis B surface antigen positive mothers at Camiguin Island but may not have been diagnosed because of the following reasons, these mothers did not have prenatal care, that blood sample was not taken during the entire pregnancy, the research covered only one hospital which excluded the other hospital in the island, the research did not include the other health facilities like the health centers, the research covered only the hospital born babies, there are babies who are home delivered and not included in the study, lastly the study covered only two months. There might be more than five percent of the population of babies who are born to mothers with positive Hepatitis B surface antigen.

RECOMMENDATIONS

Since these mothers are newly diagnosed to be positive for Hepatitis B surface antigen, and they are first time mothers they were advised that on future pregnancies, they will inform their physician of their Hepatitis B surface antigen status so that their future babies will be given immunoprophylaxis against Hepatitis B. Their sexual partners should consult a physician, so that they will be immunized and prevent contact with body fluids of their sexual partners (the mothers) and use of protective barrier during sexual activity. Close household contacts should also consult a physician and be immunized.

The medical and nursing personnel must be informed of the Hepatitis B surface antigen status of the mothers so that, in case of accidental needle pricks, vaccination will be done for them. Instruments used for the care of these mothers, especially during the delivery process (whether normal delivery or cesarean section), will not be recycled but discarded so that other patients will have no

opportunity of using the instruments used by the patients who are Hepatitis B surface antigen positive. Prevention of contact with body fluids will be done, and mothers with positive Hepatitis B surface antigen will be isolated from the rest of the other in-hospital patients.

The community should provide support to the pregnant women and advice on proper prenatal care so that there will a smaller number of women who will go through pregnancy unexamined for Hepatitis B surface antigen and for the local government it is recommended that funds will be allotted for mandatory examination of Hepatitis B surface antigen to all pregnant women, since perinatal transmission of the disease is the mode of transmission which perpetuates it.

LITERATURE CITED

- Akintemi, O. (2000). Roberts ' manual of clinical problems in pediatrics (5th ed.). Lippincott Williams & Wilkins.
- Borkowsky, W., et al. (2003). Krugman's infectious diseases of children (11th ed.). Mosby.
- Crawford, J. (1999). Robbins' Pathologic Basis of Disease (6th ed.). W.B. Saunders.
- Dienstag, J., et al. (2004). Harrison's principles of internal medicine (16th ed.). McGraw-Hill Professional.
- Dyke, S., et al. Modern pharmacology and clinical application. [Publisher not specified].
- Friedman, L. (2005). Current medical diagnosis and treatment (44th ed.). McGraw-Hill/Appleton & Lange.
- Hoofnagle, J., et al. (2000). Cecil's textbook of medicine (21st ed.). W.B. Saunders.
- Lisker-Melman, M., et al. Washington manual of medical therapeutics (31st ed.).
- Lolimer, J. (Ed.). The new lexicon, Webster's dictionary of the English language.

- Naoumov, N. V. (2003). Oxford textbook of medicine (4th ed.). Oxford Press.
- Snyder, J., et al. (2003). Behrman-Nelson textbook of pediatrics (17th ed.). W.B. Saunders.
- British National Formulary. (2004). British Medical Association and Royal Pharmaceutical Society of Great Britain.
- Does hepatitis B vaccination protection continue after 15 years? (2005, March). Annals of Internal Medicine.
- Chan, H. L. Y., et al. (2005). Combination therapy of chronic hepatitis B. Annals of Internal Medicine.
- Healthbeat. (2005, May). Illinois Department of Public Health. Antiviral regimens for chronic hepatitis B virus infection. Annals of Internal Medicine.
- Kanwal, F., et al. (2005). Antiviral regimens for chronic hepatitis B virus infection. Annals of Internal Medicine.
- Lu, F. M., et al. (2005). Advances in hepatitis B research from virology to clinical management. International Journal of Medical Sciences.
- Marques, A. R., et al. (1999). Hepatitis B research laboratory of clinical infectious diseases. Microsoft Internet Explorer.
- Pyrsoopoulos, N. T., et al. (2005). Hepatitis B. Medline.
- Scully, L. (1999). Clinical news and views of hepatitis. The Hepatitis Information Network.
- Worman, H. (2005). The hepatitis B virus. Microsoft Internet Explorer.
- Lin, S. M., et al. (2004). Hepatitis B. American Family Physician. Retrieved December 12, 2005, from lin.htm
- Petit, C. (1988). UCSF research on the connection between hepatitis B and AIDS was studied. San Francisco Chronicle. Retrieved January 6, 2006, from <http://www.sfgate.org/>

- Snyder, M. (2005). Research yields major advances in the eradication of HBV. Hepatitis Magazine. Retrieved January 8, 2008, from www.hepatitismag.com
- Zerbe, R. (2005). Rose's Camiguin Island, Philippines. Retrieved January 10, 2008, from Web Counter