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Profile of Hepatitis B Screening programme in Salem tertiary referral centre

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ABSTRACT

Background : Hepatitis B virus carrier state in the world is estimated to be around 400 million today; 75% of this population live in Asia and the Western Pacific. HBV vaccination programme have been available since the early 1980s. Vertical transmission and early exposures found to be major sources of infection in areas of high-prevalence. Promiscuous heterosexual contact and drug use account for many new cases in young adults. HBV is the main cause of cirrhosis and HCC in the world ,World wide hepatitis B vaccination can have the greatest impact on Hepatitis B–related mortality in future. Fulminant acute hepatitis B is responsible for thousands of death per year in the United States, and chronic HBV related deaths amounts to one million deaths worldwide each year. Hence population screening for HBV is of paramount importance.

Aim: 1. To identify the HBsAg positive status of the patients attending the out patient Department of Medicalgastroenterology , Government Mohan Kumaramangalam Medical college hospital, Salem. 2. To evaluate the clinical profile of the patients with HBs Ag positive.

Methods: Study Design: prospective study. 1511 Patients and the relatives attending out patient department of Medical gastroenterology GMKMC, Salem were screened for HBsAg with ELISA kits. Period of study :from July2012 to June2013. Subsequently liverfuction tests , HBeAg, HBV DNA quantification by PCR, abdominal ultrasound were done for HBsAg positive patients. Results: of these 1511 persons eight one were tested positive for HBsAg. (5.36%).Number of males:62 Number of females:19. Male: female ratio was 3.26. those who tested positive for HBs Ag were from gaes 12 to 70 years.The HBsAg positive persons were evaluated with liver function tests, abdominal ultrasound , HBeAg, and HBV quatification by PCR method.Family screening was done for HBsAg positive persons. Hepatitis B vaccination was advised for those who tested negative for HbsAg.

Conclusion: Hepatitis B virus screening programme helps in identifying HBV infection in the community. It also helps in assessing the persons who require anti viral therapy

KEYWORDS : Hepatitis B screening, Salem tertiary referral centre

Background : The viruses associated with CLD, Cirrhosis and Hepatocellular carcinoma are Hepatitis B,C and D as per our current knowledge. Blumberg discovered the '***Australia Antigen'*** in 1965 in an Australian aborigine. Since then, there has been a steady evolution of knowledge regarding hepatitis viruses and their mechanisms of liver injury. It is extremely fascinating to know that these viruses by themselves are not cytopathic and yet they are responsible for devastating hepatic injury. Hepatitis B virus carrier state in the world is estimated to be around 400 million today; 75% of this population live in Asia and the Western Pacific[1]. HBV vaccination programme have been available since the early 1980s. Vertical transmission and early exposures found to be major sources of infection in areas of high-prevalence. Promiscuous heterosexual contact and drug use account for many new cases in young adults. HBV is the main cause of cirrhosis and HCC in the world , vaccination has been shown to reduce greatly the number of new cases and HCC in Taiwanese children.[2] World wide hepatitis B vaccination can have the greatest impact on Hepatitis B–related mortality in future. Fulminant acute hepatitis B is responsible for thousands of death per year in the United States, and chronic HBV related deaths amounts to one million deaths worldwide each year[3]. HBV carrier mother transmits HBV to her neonate which is responsible for the occurrence of majority of new cases in the world today. 60 to 90%.Anti-HBe positive mothers transmit the disease less frequently (15% to 20%) Sexual transmission is the main mode of transmission in Europe and North America, and injection drug use is a major contributor to new cases as well.[4] Household contact with an HBV carrier, hemodialysis, exposure to infected health care workers, tattooing, body piercing, artificial insemination, and receipt of transmitted by blood that tests negative for HBsAg but positive for antibody to hepatitis B core antigen (anti-HBc) because of low levels of circulating HBV DNA in such blood.[5] HBsAg-negative blood that is positive for anti-HBc is excluded from the donor pool in the United States and many countries around the world. In 0% to 30% of persons who are seropositive for anti-HBc alone, HBV DNA is detectable in serum by polymerase chain reaction (PCR) testing.[6] Hence population screening for Hepatitis BV is of paramount importance. blood products or organs. Since routine screening of the blood supply was implemented in the early 1970s, transfusion-associated hepatitis B has become rare in the United States.

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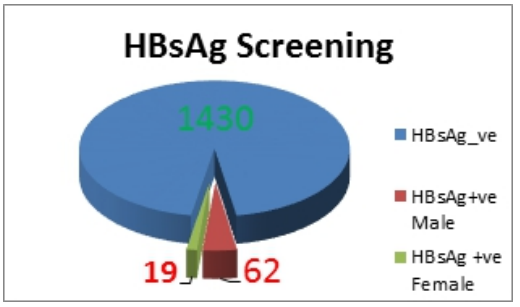
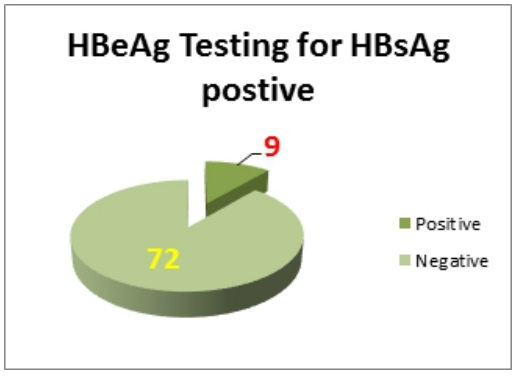
HBeAg positive had viral DNA load more than 20000IU/ml and 21 persons who were HbeAg negative had HBV DNA more than 2000iu/ml. The rest of the 51 persons were HBeAg negative Hepatitis B Virus was not detectable and with normal transaminases. AST and ALT were significantly elevated inthose with significant viral load in both HBeAg positive and HbeAg negative subjects. These patients were inducted for antiviral therapy and they were reviewed and monitored with liver function tests every 3months and viral load every 6months. One family of four is on anti viral therapy





Discussion:

Chronic hepatitis B is a common disease with an estimated global prevalence of over 400 million carriers, or approximately 5% of the world's population. In the Far East the Middle East, Africa, and parts of South America, the prevalence is high, with HBeAg positivity rates ranging from 8% to 15%. Regions of intermediate prevalence (2%-7%) include Japan, parts of South America, Eastern and Southern Europe, and parts of central Asia. Prevalence is lowest (<2%) in the United States and Canada, Northern Europe, Australia, and the southern part of South America. In our study eighty one persons that is 5.36% of the 1511 persons screened for HBsAg were positive .

Chronic HBV infection is usually defined as detectable hepatitis B surface antigenemia for a period of six months or more. The risk of chronic infection is related to two major factors: the age at which infection is acquired and the immune state of the host.In our study the age group who tested positive were from 12years to 70years. Detection of HBV DNA by sensitive molecular techniques. Infectious virions can clearly be detected in patients who are HBsAg negative. The risk of chronicity after acute HBV infection is low in immunocompetent adults. The reported risk of chronic infection after acute exposure in adults ranges from less than 1% to 12%, but the consensus is that the risk of chronicity is less than 5%[7]. The risk of chronic infection is greatly increased in patients who have a reduced ability to recognize and clear viral infection (e.g. patients on chronic hemodialysis, those on exogenous immunosupperssion following solid organ transplantation, and those receiving cancer chemotherapy).patients with concomitant HIV infection are also at significant risk of developing chronic infection (20%-30%)the risk of chronicity after neonatally acquired infection is extremely high (up to 90%). Presumably because neonates have an immature immune system. Cirrhosis develops in 15% to 20% of them within 5 years, even if histologic liver damage is initially mild. Many patients with chronic HBV infection have normal serum aminotransferase levels, normal or near-normal liver histology findings, and no symptoms. These "healthy carriers" appear to be immunologically tolerant of the virus, and their prognosis is excellent. In our study 51 persons who were HBsAg positive tested negative for HBeAg with undetectable HBV DNA levels and normal transaminase values. Nine persons were tested HBsAg positive and HBeAg positive had viral load more than 20000IU/ml and 21 persons who were HBsAg positive and HBeAg negative had viral load more than 2000IU/ml.

Conclusion: Hepatitis B virus screening programme helps in identifying HBV infection in the community. It also helps in assessing the persons who require anti viral therapy

REFERENCES

1. Gust ID: Epidemiology of Hepatitis B virus infection in the Western Pacific & South East Asia. Gut 1996; 38(Suppl 2):S18-23.
2. Chang MH, Chen CJ, Lai MS, et al: Universal hepatitis B vaccination in Taiwan & the incidence of HCC in children. Taiwan Childhood Hepatoma Study Group. N Engl J of Medcine 1997; 336:1855-9.
3. Shepard CW, Simard EP, Finelli L, et al: Hepatitis B virus infection: Epidemiology and vaccination. Epidemiol Rev 2006; 28:112-25.
4. Lee WM: Hepatitis B virus infection. N Engl J Med 1997; 337:1733-45.
5. Dickson RC, Everhart JE, Lake JR, et al: Transmission of hepatitis B by transplantation of livers from donors positive for antibody to hepatitis B core antigen. The National Institute of Diabetes and Digestive and Kidney Diseases Liver Transplantation Database. Gastroenterology 1997; 113:1668-74.
6. Grob P, Jilg W, Bornhak H, et al: Serological pattern "anti-HBc alone": Report of a workshop. J Med Virol 2000; 62:450-5 Hwang SJ et al. Evaluation of hepatitis B and C viral markers: Clinical significance in Asian and Caucasian patients with HCC in the USA; J Gasteroenterolhepatol. 1996 Oct; 11 (10) : 949-54.
7. Fattovich G, Pantalena M et al. Effect of hepatitis B and C virus infections on the natural history of compensated cirrhosis.