GENOTYPING OF HEPATITIS B VIRUS (HBV) USING PREVIOUSLY HBV POSITIVE SERUM SAMPLES FROM INDIVIDUALS REFERRED FROM THE SURGICAL CLINIC TEACHING HOSPITAL, PERADENIYA

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Hepatitis B Virus (HBV) is a global public health problem infecting about 2 billion people and is known to be the 10th leading cause of death worldwide. Not much research has been carried out in Sri Lanka, the status of HBV infection in the population is not well known because there are no proper monitoring systems available on characterizing the genotype of HBV in decision making for chronic hepatitis B (CHB) treatment. The number of HBV cases that are reported in certain institutes like the Microbiology Laboratory, Faculty of Medicine, University of Peradeniya is considerably less. This study was carried out to determine the genotype of the HBV in a selected group of patients that were referred for testing from various hospitals in the Central Province of Sri Lanka. However, the majority were sent from the Teaching Hospital, Peradeniya.

Six previously HBsAg positive samples were in the storage freezer were re-tested second time to make sure the stored samples had HBsAg. The DNA from these samples were extracted using QiAmp DNA mini kit by Qiagen. Nested- PCR was then carried out to check for the presence of HBV DNA on those samples. Positive samples were sequenced using a Genetic analyzer by Applied Biosystems and then genotyped to detect the different genotypes.

Five out of the six samples were tested positive for HBsAg when re-tested. Nested- PCR failed to reveal HBV DNA in the first attempt. Subsequently, the DNA extraction method was changed to NucleoSpin by Macherey- Nagel. Two samples tested became positive for HBV DNA on the new extraction method. These two samples were sequenced and both PCR positive sample sequences had >96% homology with Genotype A of HBV. Further in depth research should be carried out on characterization of HBV to get a clear picture of HBV genotype/s in the central province of Sri Lanka. This information will be very useful for the treatment of CHB patients as the drug of choice for antiviral treatment differs according the infecting genotype of HBV.