ABSTRACT… Objective: To determine the status of HDV infection in HBV infected individuals at Larkana. Duration & place of study: This is a laboratory based retrospective study conducted at Molecular Laboratory HPCP-CMI Central laboratory CMC Hospital City block Larkana from October 2010 to September 2011. Material & methods: During the study period all the serum samples in which the HBV DNA was qualitatively detected were further processed for HDV RNA detection by the method of Real time PCR. Result: During the study period a total of 1564 HBV DNA detected serum samples were processed for HDV RNA detection. The males were 1078 (69.0%) and females 486 (31.0%). The age were ranged between 15 to 73 years. Out of the 1564 HBV DNA detected serum samples, the HDV RNA was detected in 865 (55.31%) and not detected in 699 (44.69%) individuals. Conclusions: This study showed 55.3% HDV infection in the HBV infected patient. Hence, to formulate the treatment option and to predict the response of treatment it is necessary that every HBV infected case should be processed for HDV RNA detection.

INTRODUCTION
The Hepatitis B virus (HBV) infection is the most common prevalent infection through out the world. Specially in the developing countries, it is being considered as one of the most important public health problem, causing the millions of the deaths. The hepatitis D virus (HDV) is a defective RNA virus. It is dependent on HBV for its replication. The HBV provides the viral coat with the surface antigen for its infection into the hepatocytes and assembly of virion. The HDV can cause a co-infection in persons with HBV or a super infection in individuals, who are the chronic carries of HBV infection. The persons having HBV / HDV co-infection may developed more serious acute illness and increased risk of fulminant hepatitis. The HDV infection also results the increased rate of progression to cirrhosis of liver and hepatocellular carcinoma. Though, the HDV infection is present throughout the world and it can infect all age groups but its distribution is still in doubt and corresponds only to the prevalence of HBV infection. Since last many years the prevalence of HDV infection has been changed in many geographical areas. The declining trend in many parts of world has been observed, which is due to the HBV vaccination. Regarding the HDV infection a state of ignorance has been prevailed in our country due to the lack of actual figures of its epidemiology. This study was carried out to determine the status of HDV in HBV infected patients at the central Laboratory Chandka Medical College Hospital larkana associated with Shaheed Mohtarma Benazir Bhutto Medical University (SMBBMU), Larkana.

MATERIAL AND METHODS
This is a laboratory based retrospective study, conducted at Molecular Laboratory HPCP-CMI, Central Laboratory Chandka Medical College, Hospital City Block Larkana. The study was conducted from the month of October 2010 to September 2011. During the study period all the HBV DNA positive serum samples were processed for the determination of the status of HDV infection. The identification of HBV & HDV in this study was carried out at molecular level by detecting the nucleic acid of the viruses. For nucleic acid detection of both the infectious agents, the molecular based methods such as Real time polymerase chain reaction have been used. After the
processing of all HBV DNA positive serum samples, those were consider as the HDV infected in which the HDV RNA was qualitatively detected and HDV negative, in which HDV RNA was not detected.

RESULTS
During the one year period of study, a total of 1564 HBV DNA positive samples were processed for HDV RNA detection. The males were 1078 (69%) and female 486 (31%). The age were ranged between 15-73 years. The HBV DNA positive cases were processed during all the months study year except January, February, March 2011 due to some unavoidable technical problems. Out of the 1564 HBV DNA positive serum samples, the HDV RNA was detected qualitatively in 865 (55.31%) and not detected in 699 (44.69%) serum samples. Out of the 865 HDV RNA positive cases, the males were 593 (68.56%) and females 272 (31.44%). The variation in detection rate of HDV RNA has been documented in the various months of the study period. The minimum HDV RNA detection rate of 21.80% was documented in the month of April 2011 and maximum HDV detection RNA rate of 72.20% was detected in the months of September 2011 (Table-I).

DISCUSSION
Since many years the world wide change in the epidemiology of HDV infection has been observed. On one hand over a period of decade its incidence in the traditionally prevalent areas of Europe has been decreased from 23% to 8.3% 25-27. While on the other hand, some developing countries with increased prevalence of HBV infection and decreased preventive strategies including immunization against HBV have become immerged as the most prevalent areas for HDV infection. In this regard, the reported studies of our country also showing the increasing frequency of HDV infection in HBV infected individuals. Mumtaz et al 28 in 2005 reported the 16.16% , DAS et al 29 in 2008 recorded 31.5% and Zaidi et al 30 in 2010 observed 88.8% HDV infection in HBV infected individuals.

The status of HDV infection in HBV infected patient documented in our study was 55.31% , which is in accordance with the study of Seetlani et al 31 who reported the overall 58.6% positivity of HDV infection in HBV infected individuals. The study of Khan et al 32 is also closely co-related with our study, who observed 67% prevalence of HDV infection in the province of Sindh, Pakistan. The another important aspect of our study is an observation that the HDV infection was more documented in males (68.56%), which is also in accordance with the studies of Seetlani et al, 33 and Khan et al 32 who also observed the higher frequency of HDV infection in male individuals, Which looks to be attributed to the high risk behavior of male population.

CONCLUSIONS
Our study showed high frequency of HDV infection in HBV infected individuals, that indicate the importance of further diagnosis HBV infected individuals for the HDV infection. As the males were more infected than females, hence the special attention should be given to all related risk factors responsible for the spread of this double HBV and HDV infection.
HDV INFECTION IN HBV INFECTED INDIVIDUALS

RECOMMENDATIONS
To formulate the treatment option and to predict the response of treatment, it is recommended that every HBV infected case should be further processed for HDV RNA detection. It is also recommended that the proper HBV vaccination and awareness programs for the general public, Health practitioner and health care managers should be started to make the people free from both HBV and HDV infections.

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REFERENCES


"Friends may come and go, but enemies accumulate."

Charles de Gaulle (1890-1970)