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ANALYSIS OF LIVER FUNCTION TEST (LFT'S) IN HEPATITIS PATIENTS AND ROLE OF INTERFERON THERAPY AS A TREATMENT

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Abstract:

Objective of the study: *The basic aim of the study is to find the abnormal values of liver function tests in hepatitis patients who are receiving different therapies and medications.* ***Methodology of the study:*** *This study was conducted at Health department Punjab during January 2019 to July 2019. The study was conducted according to the rules and regulations of concerned committee. The data was collected from both genders and the sample size is 100. Detailed history was taken from all patients with special reference to duration of hepatitis, mode of infection, previous history of jaundice, HBV or HCV infection. A thorough clinical examination was carried out and stigmata of chronic liver disease, hepatosplenomegaly, ascites, etc. if present were noted.* ***Results:*** *The demographic values of patient group and control group shows a significant difference. The data suggest clearly that CD4 count decreases in abnormal liver function. The results shown the table 02 demonstrates the multiple comparison of ALT, AST and ALP level among different treatments and normal group.* ***Conclusion:*** *It is concluded that hepatitis directly increase the liver enzymes even after receiving medication and other therapies. But our results shows that those patients who receive glutathione treatment are less suffer from liver abnormalities as compared to other therapies.*

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INTRODUCTION:

Liver is a pivotal organ of the body and play very important role in the metabolism. If there is any problem in the liver then the herbs or different plants play an important role for the treatment of liver disorders[1]. There are a number of plants which shows hepatoprotective property. Hepatitis B and C viruses can lead to hepatocellular carcinoma and cirrhosis-related end-stage liver disease, which are potentially life-threatening liver diseases. Hepatitis B and C need immediate worldwide attention as the infection rates are too high. More than 240 million people globally have chronic (long-term) liver infections. Every year, about 600,000 people die because of the acute or chronic consequences of hepatitis B, and more than 350,000 people die from hepatitis C-related liver diseases worldwide[2].

Hepatitis is a major public health problem and is endemic throughout the world especially in tropical and developing countries. Hepatitis means inflammation of the liver. The liver is indispensable to our survival[3]. It has synthetic, storage and detoxification functions. An abnormal LFT may signify a serious disease that can be identified only through further testing. These conditions include liver diseases, such as primary biliary cirrhosis (PBC), diseases of other organs such as Paget's disease of bone, and multi-organ diseases such as haemochromatosis. However, the majority of people with an abnormal LFT in primary care settings will not have any such previously undetected disease[4]. They will have either no disease at all, or will be manifesting the effects of alcohol abuse or obesity. The doctor is likely to be aware, or at least suspicious, of these behaviours when ordering LFTs, but this does not exclude the presence of other diseases that may aggravate liver damage. There is thus a real question about which specific further tests, if any, a GP should order when an abnormal LFT result is obtained in a patient with non-specific symptoms, or as a result of routine testing[5]. In some cases there may be a clear indication for further tests. For example, if the patient has a family history of haemochromatosis then their iron saturation should be measured. In some cases the pattern of LFT abnormality may suggest a diagnosis for example, an isolated raised unconjugated bilirubin suggests Gilbert's disease, while a high blood level of alkaline phosphatase (ALP) is indicative of PBC. In most cases however, no unambiguous clinical indication for follow-on testing exists[6]. The literature deals mostly with the pattern of abnormality given a diagnosis, rather than the probability of the various diagnoses given a pattern of abnormal LFTs. It is therefore not surprising that guidelines for GPs confronted by an abnormal LFT in patients with non-specific symptoms or detected fortuitously are inconsistent, or that the way GPs respond has been found to be eclectic[7].

Objective of the study

The basic aim of the study is to find the abnormal values of liver function tests in hepatitis patients who are receiving different therapies and medications.

METHODOLOGY OF THE STUDY:

This study was conducted at Health department Punjab during January 2019 to July 2019. The study was conducted according to the rules and regulations of concerned committee. The data was collected from both genders and the sample size is 100. Detailed history was taken from all patients with special reference to duration of hepatitis, mode of infection, previous history of jaundice, HBV or HCV infection. A thorough clinical examination was carried out and stigmata of chronic liver disease, hepatosplenomegaly, ascites, etc. if present were noted.

Blood investigation including Hemoglobin (Hb), total leucocytes count (TLC), differential leucocytes count (DLC), platelet count, X-ray chest, ultrasound abdomen and LFT were done in all patients. The LFT included serum bilirubin, aspartate aminotransferase (AST), alanine aminotransferase (ALT), serum alkaline phosphatase (SAP) and serum albumin. Abnormal values were defined as serum Bilirubin ≥1.5 mg/dl, ALT/AST≥50 IU/ml.

Statistical analysis

The data were sampled and entered into the SPSS worksheet for analysis. The alpha criterion was set at 0.05 (95% confidence interval [CI]). After constructing a 2×2 contingency table, chi-square without Yates correction was used to find the association between the potential risk factors and hepatitis status.

RESULTS:

The demographic values of patient group and control group shows a significant difference. The data suggest clearly that CD4 count decreases in abnormal liver function. The results shown the table 02 demonstrates the multiple comparison of ALT, AST and ALP level among different treatments and normal group. There were non-significant relationship present in diseased group treated with different therapies like interferon and glutathione as as $p<0.05$.

Table 01: Associations of Clinical Parameters with Abnormal Liver Function Tests

Parameter	Normal LFTs	Abnormal LFTs	*P* value
Age (years)	35.3 + 6.7	36.5 + 10.1	0.54
Sex (M:F)	237:35 (87.1%:12.5%)	45:3 (93.8%:6.2%)	0.91
BMI (kg/m^2)	21.8 ± 1.8	21.7 ± 2.7	0.88
Duration of HIV infection (months)	36 ± 50.3	38 ± 43.8	0.95
CD4 count (/mm^3)	280 ± 182	234 ± 212	0.12
Significant alcohol consumption	106 (38.9%)	24 (50%)	0.15
HBV & HCV Co-infection	47 (17.2%)	19 (39.6%)	0.002
HBsAg positive	26 (9.6%)	11 (22.9%)	0.01
Anti HCV positive	21 (7.7%)	06 (12.5%)	0.27
Combined HBV& HCV	0	02 (4.1%)	–
NAFLD	2 (1.2%)	1 (2.0%)	–
Disseminated TB	0	1 (2.0%)	–
No obvious cause	–	3 (6.25%)	–

Table 02: LFTs of hepatitis patients

S.O.V	Sum of Squares	df	Mean Squares	f	Sig.
ALP	15292.855	4	3823.214	18.288	.000
AST	4181.198	20	209.060	23.794	
ALT	19474.054	24		35.391	.000

DISCUSSION:

Damage to the structural integrity of liver is reflected by an increase in the level of serum transaminase because these are cytoplasmic in location and are released into circulation after cellular damage[8]. It is generally accepted that the toxicity of carbon tetrachloride depends on the cleavage of the carbon-chlorine bond to generate a trichloromethyl free radical, and this free radical reacts rapidly with oxygen to form a trichloro methyl peroxy radical, which may contribute to the hepatotoxicity and subsequent increase in hepatic enzymes[9].

Over 4 million acute hepatitis B cases are diagnosed every year which leads to one fourth of cases becoming chronic carriers. The chronic stage accounts for 1 million deaths per year due to chronic active hepatitis, cirrhosis and hepatocellular carcinoma[10].

CONCLUSION

It is concluded that hepatitis directly increase the liver enzymes even after receiving medication and other therapies. But our results shows that those patients who receive glutathione treatment are less suffer from liver abnormalities as compared to other therapies.

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