Original Article

Esophageal Varices in HCV

Predict the Possibility of Esophageal Varices in HCV Patients on the Basis of Fibro Scan Scoring System

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ABSTRACT

Objective: To predict the possibility of Esophageal varices in HCV patients on the basis of fibro scan scoring system.
Study Design: Cross sectional study.
Place and Duration of Study: This study was conducted at Mamji Hospital from September 2013 to August 2014.
Materials and Methods: Total 87 patients with chronic liver disease with HCV were enrolled. They were evaluated for the treatment of chronic viral hepatitis C. The study was conducted in a private Hospital of F.B. area Karachi. The consent were taken and record was gathered on a preset proforma. All patient had done with abdominal ultrasound, fibro scan and upper endoscopy and laboratory investigation. All the fibro scan was done by single department and all the upper endoscopies were performed by same gastroenterologist. The data was analysed on SPSS version 15.
Results: All the patients were undergone fibro scan and divided into two groups according to their score offibro scan of 8Kpa into group I with low score and group II with high score. All patients under went upper endoscopy and the result were also divided into two groups those who had varices and those who had not.Total 87 patients. Males were 55 and females were 32. The fibro scan scoring was divides into two group. Group I was less than 8Kpa and group II was more than 8 Kpa. Among this 57 were in group I and 30 were in group II. The upper endoscopy result was also divided into two groups and in group I there were only one cases of early varices while 28 patients were show esophageal varices in group II.
Conclusion: It is concluded that fibro scan is a good non-invasive measure to predict probable esophagealvarices.
Key Words: Fibroscan, varices, chronic hepatitis, non invasive

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INTRODUCTION

The chronicity[1] of hepatitis follow after an acute infection is 70-75% cases. Chronic infection may follow in those who has normal levels of aminotransferase levels after an acute infection. The patients with chronic hepatitis only 20-25% will progress to cirrhosis. Mostly hepatitis C is identified initially in asymptomatic patients who have no history of acute hepatitis C infection they either donate blood, having a life insurance laboratory test, or under gone workup for an elective surgery or an antenatal visit. Approximately 33% patients of hepatitis C have normal aminotransferase levels. The progression of hepatitis C is almost more than 75% and it depends upon the duration of illness, obesity, older age, co-morbidity, increased iron load, HIV infection, other hepatitis virus like B and Dand alcohol consumption.

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The chronic liver disease due to hepatitis C is endemic disease in Pakistan. It is almost 5-7% of the total population. The low literacy rate, poverty, unhygienic living style, mal practise and less resources may be the factors of its vast spread. The consequence of the virus was two its impact on liver so lead to cirrhosis. The destruction of synthetic liver function on one side and the viability of the virus to continue the disease process. To investigate the patient and to monitor the treatment success is also very expensive which is far away from the range of a common person. As the disease become chronic so that the complication are also on the rise. The close follow up is mandatory in every case. The problem arises from the element of fibrosis that replaced the normal parenchyma of liver and there is now fibrosis that will lead to increase the portal hypertension on one side and decreased the synthetic function of liver on the other side. There are chances of cirrhosis and its complications like esophagealvarices. Previously liver biopsy was done in every as it is risky, expensive, time consuming and little bit of variable results. With the advancement it was restricted to some special and difficult cases.

Fibroscan[2,3,4] it is a very new test and confidently comment on the fibrosis of liver and now liver biopsy was almost replaced with advance technique fibroscan. Fibro scan[5] or elastography is a non-invasive test to measure liver inflammation and fibrosis. The score then converts on metavir scale to find a stage. In metavir grading system there are two numbers one is grade to indicate the degree of inflammation and the other is stage that showed the degree of fibrosis[6 7]. A four-point grading system starting from A0 noinflammation, A1 mild inflammation, A2 moderate inflammation and A3 severe inflammation. While a five-point scale is for grading the fibrosis starting from F0 no fibrosis, F1 minimal fibrosis, F2 fibrosis involve the blood vessel of liver, F3 fibrosis involve the other areas of liver and F4 advanced fibrosis or cirrhosis. The fibro scan scan results in KPacan be converted into metavir scale of F1-F4. The higher scale like F3-F4 showed higher fibrosis and cirrhosis[8 9 10]. It is the test that measure liver inflammation and fibrosis comparable to liver biopsy. It is FDA approved. The result of fibroscan in a patient if it is more than 14 KPa it is 90% probability of having cirrhosis and if more than 7 KPa then it showed more than 85% of having significant fibrosis.

In this particular study we decide to do fibroscan and upper G.I. endoscopies in every case to see the result and with the help of metavir scale we decide to predict the probable esophageal varices[11 12] and with the endoscopy we confirm it

MATERIALS AND METHODS

This is a cross sectional study and conducted in Mamji Hospital. The study was done for a year from Sep 2013 to Aug 2014. It is now a very big hospital of district central and cover almost a larger area of Karachi. All the patients were adult and had informed consent. Total 87 patients of chronic liver disease with HCVwere enrolled. They were evaluated for the treatment of chronic viral hepatitis C. History and detailed examination was taken in every case and the record was gathered on a preset proforma. All patient had done with abdominal ultrasound, fibroscan and upper endoscopy and laboratory investigations like Blood CP, UCE, LFT, PT, INR, serum Albumin and their BMI. All the fibro scan were done by single department of Civil Hospital Karachi and all the upper endoscopies were performed by same gastroenterologist in a private set-up. The data was analysed on SPSS version 15.

Inclusion Criteria:

1) Age more than 18 years
2) Treatment Naïve patients
3) BMI < 28
4) No history of upper GI bleed, Hepatoma and ascites.

Exclusion Criteria:

1) Age less than 12 years
2) Had taken treatment
3) History of EsophagealVarices
4) Patients with cirrhosis

RESULTS

Total 87 cases. Males were 55 and females were 32. The mean age was 29± 11. Males were little more than females. The patient's statistics was shown in Table No. 1.All the patients were undergone fibroscan and divided into two groups according to their score of fibroscan group I with low score and group II with high score. The cut value is 8Kpa. Shown in Table No. 2. All the results were in Kilopascal (Kpa). It ranges from 3 to 75 Kpa. The result of less than 8 Kpa was consistent with F1-2 and it is 57 cases (65.5%) and the Fibroscan score of 8-11 Kpa in F3 were in 24 cases (27.5%), while F4 greater than 11 Kpa and it is 6 cases (6.89%). All patients under went upper endoscopy and the result were also divided into two groups those who had varices and those who had not was shown in Table No 3.In group I there were only one cases of early varices while 23 patients were show small esophagealvarices and 05 had large esophagealvarices in group II.

Table No. 1: Patient characteristics

	Group I	Group II
Male	37	18
Female	20	12
Age	24 ± 7	33± 3
BMI	23 ± 3	26 ±2
Hemoglobin	10.6± 3	9.4± 2.5
Total lecocyte count	$10X^3$±$3x^3$	$5X^3$± $2X^3$
Platelets count	100000±5000	65000 ±3000
SGPT	57 ± 13	88 ± 17
SGOT	27 ± 7	45 ± 9
Serum albumin	3.3± 0.9	2.7 ± 0.5
INR	1.2 ± 0.1	1.4 ± 0.4

Table No 2: Fibroscan Finding

Total patients	Group I (F 1-2)	Group II (F 3-4)
F1	33	0
F2	24	0
F3	0	24
F4	0	6

Table No 3: Endoscopic Finding

Total No of Patient	Group I	Group II
No varices	56	02
Small Varices	01	23
Large Varices	00	5

32% in total and 93% in group II having high fibroscan score were with esophagealvarices. Labaratory tests like blood complete picture, prothrombin time, serum albumin and ultra sound abdomen were done in all patients. The platelet count were low, the albumin was low and prothrombin time was prolong among group II patients while near normal in Group I patients.The ultrasound finding of the abdomen was also significant

in group II patient. There was splenomegaly, coarse echo texture in every case of group II while three cases had ascites.

DISCUSSION

Chronic liver disease is endemic disease in our part of the world. Hepatitis C virus is the leading cause of chronic liver disease in Pakistan. It is almost affect from 5-7 % of the population in Pakistan. The overall treatment and management of these patients is a burden on society. As we are a poor country, less health care resources and low literacy rate so we don't follow the case as it required, we pick the cases either on screening for job or they presented with complications. Patients with chronic liver disease can present with upper gastrointestinal bleeding because of a complication of cirrhosis. For the reason it is mandatory to investigate every case of chronic hepatitis C in detail. To pick upper G.I. bleeding complication early we need an upper G.I. endoscopy in every case. The endoscopes and the skill are not available in every centre. It creates an extraordinary burden on the team in particular and on health system in general. So it is better to do some test that will predict the possibility of esophagealvarices in particular cases and it should be less invasive, easy to perform and better availability and has comparable results. For thepurpose we need a test that calculate the liver stiffnes and predict about the complications like esophagealvarices and it is done by fibroscan the transient elastography. YasminSaad et al [13] emphasized on fibroscan to pick early the complications like esophagealvarices. It records the value in Kpa and it is divided into staging from F1 to F4 depending upon the score. The fibroscan[14,15] had negative and positive predictive values for the diagnosis of esophagealvarices were 95% and 94% respectively. Al Hamoudi[16] et al were showed same result and highly recommended fibroscan to predeict early esophagealvaricesthecut value according to the Metavir scale was 8Kpa in our study. It is a good and reliable test to predict esophagealvarices but it cannot described the extent or grade of varices. In this study the patient with high fibroscan score had more chances of having esophagealvarices simultaneously the platelets count, serum albumin and INR were also dearranged.And the endoscopies were positive in 93 % of cases in group II.

Previously the liver biopsy was carried out in cases where we want to have a histological assessment and grade of fibrosis. The liver biopsy[17] is still a gold standard but the fibrscan had almost replaced it. Similar results were also found by many of the authers[18 19] 83.5 % sensitivity in diagnosing small esophagealvarices. The procedure was easy to perform and had better results. It was all the Kilopascal value that would decide what were be the future prospects. It could not clearly described the extent of the varices but with the disease progression[20] the complications were on a rise.

CONCLUSION

It is strongly concluded that fibroscan can predict the possibility of esophagealvarices in patients with chronic hepatitis C infection.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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