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Research Article

**DIFFERENT CONCEPTS AND ASPECTS OF MANAGEMENT  
FOR LIVER CIRRHOSIS**

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**Abstract:**

*This article discusses a practical, evidence-based approach to the diagnosis and management of liver cirrhosis by focusing on etiology, severity, presence of complications, and potential home-managed treatments. Liver cirrhosis from any cause represents an emerging health issue due to the increasing prevalence of the disease and its complications worldwide. Primary care physicians play a key role in early identification of risk factors, in the management of patients for improving quality and length of life, and for preventing complications. Specialists, by contrast, should guide specific treatments, especially in the case of complications and for selecting patient candidates for liver transplantation. An integrated approach between specialists and primary care physicians is essential for providing better outcomes and appropriate home care for patients with liver cirrhosis. The issue is that people who have Liver Cirrhosis, they don't show any viable symptoms in the early stages, which makes things serious for later stages of the disease. However, if doctor advises the person a routine blood test, then it might be detected and it will allow looking for more tests to see that what problem the liver actually has.*

**Key words:** Management, Liver Cirrhosis, Hepatitis, Family Medicine, Hepatic Encephalopathy, Portal Hypertension.

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**INTRODUCTION:**

Liver cirrhosis is defined in histology as a bridging fibrosis—a late stage of hepatic fibrosis—leading to deranged liver architecture and regenerative nodules. Liver cirrhosis is considered the end stage of a variety of chronic liver diseases, and is irreversible in its advanced stages [1]. A liver is known as a body's metabolic processing plant due to a vital part it plays during digestion the way cells change nourishment into vitality after sustenance is processed and retained into the blood [2]. Hepatocellular carcinoma is a main source of death in patients with liver cirrhosis, in addition to management for hepatocellular carcinoma is complicated through liver cirrhosis during over 80% of patients [3]. As a result of an expanding commonness of incessant viral hepatitis in addition to (alcoholic-non-alcoholic) steatohepatitis as well as high hazard advancement in the direction of liver cirrhosis along with end-stage liver malady, precautionary projects in addition to premature management of the circumstances are viewed as a developing medical problem [4]. More instances of liver cirrhosis are effect through HCV stand for hepatitis C virus than HBV stand for hepatitis B infection. Cirrhosis is characterized by poor life expectancy and is a leading cause of morbidity and mortality: in the United States liver cirrhosis is the 12th most common cause of death (9.5/100 000 individuals), while in Italy the incidence of liver cirrhosis is over 26 000 new cases each year, with a prevalence over 120 000 cases (7000 below 45 years), and 20 deaths/100 000 individuals. Liver cirrhosis carries the risk of life-threatening complications, partly due to a number of co-morbidities. Medical treatments that may halt the progression of compensated cirrhosis to decompensated cirrhosis are currently being developed [5]. Liver transplantation, however, is the only option in a selected subgroup of patients with end-stage disease. Because of the increasing prevalence of chronic viral hepatitis and (alcoholic-non-alcoholic) steatohepatitis and their high-risk evolution toward liver cirrhosis and end-stage liver disease, preventive programs and early management of these conditions are considered an emerging health issue. It is essential that primary care physicians (PCPs) be optimally trained to identify patients with chronic liver disease as early as possible, and to properly manage those with liver cirrhosis [6]. A close interaction is therefore required between PCPs and specialists (i.e. gastroenterologists, hepatologists, and internists) who have a fundamental role as consultants and guides for specific treatments, i.e. in the case of complications and the management of patients approaching liver transplantation. The risky fact about liver cirrhosis is that medical field has not been able to develop its cure, but good thing is that it is somehow can be treated to prevent the damage

and its further progress [7]. In prevention method, the doctors look to stop its progress to further damage the liver, and they try to stop it from doing so [8]. And their other goal is to ensure that complications from liver cirrhosis are stopped or at least prevented as much as possible [9].

**Management**

The identification of the cause underlying liver cirrhosis is essential in starting preventive measures and designing specific intervention (LEVEL1). Table Table11 shows the most appropriate tests for etiologic diagnosis of cirrhosis. Anti-mitochondrial antibodies are specific for primary biliary cirrhosis, HBV-DNA or HCV-RNA positivity for hepatitis B or C, low serum ceruloplasmin levels for Wilson's disease, and high serum ferritin and transferrin saturation index for hereditary hemochromatosis. Of note, liver cirrhosis may result from coexisting etiologic factors (i.e. alcohol and viral infection, obesity and virus, etc.). Once the diagnosis of liver cirrhosis has been formulated, a further important step is to score the disease. However, neither physical findings nor transaminases are helpful for defining prognosis or scoring the disease.

The medical staff needs to give the awareness to the patients so that people could be saved, as it is the chronic liver disease so that patients need to be told that there is the need in order to maintain a healthy diet. There are high-risk group that are facing the issues related to the medical treatment and in this way, people need to be told about the precautions of the cirrhosis by wearing protective clothing, by getting the specific treatments, by considering the liver transplantation, good nutrition etc. However, for the management of the people, there is a need to take the low salt diet or diet with the alcohol abstinence [10]. Assistance is based on disease stage, complications and grade of self-sufficiency. Stable (compensated) patients are generally self-sufficient and a six-month check (blood tests and liver ultrasonography) is indicated. Complicated and decompensated forms require an integrated approach with referral centers. Home care reduces costs [11] and should focus on a chronic care model of patient education and on empowering both the patient and the family to take responsibility for the care [12]. Several cirrhotic patients can benefit from treatments aimed to slow disease progression [13]. In particular, nucleoside (Lamivudine, Telbivudine, Entecavir) and nucleotide (Adefovir, Tenofovir) analogues have shown to be safe and effective in reducing the risk of decompensation and disease progression in patients with HBV infection, while interferon plus ribavirin is a therapeutic option for under-compensated liver cirrhotic patients with HCV infection.

### Algorithm for Management

#### Spontaneous Bacterial Peritonitis

Within the splanchnic bed is enlarging within hydrostatic pressure as a result cause a Portal hypertension. By diminished protein combination oncotic pressure is also lessened basis may be donate to the situation [14]. With salt limitation Ascites would be cured as well as diuretics. A mixture of spironolactone Diuretic treatments classically comprise along with a loop diuretic, 125 MEQ per L except the serum sodium height is fewer than (125 mmol per L). They have to analytical paracentesis executed Patients with new- onset ascites, cell count of consisting, entire test protein, level of albumin, as well as culture of bacterial along with compassion [15]. The serum-ascites albumin ascent is utilized to compute concentrated Serum-ascites albumin.

#### Hepatic Encephalopathy

In support of treatment of immune system hepatitis prednisone as well as azathioprine is utilized [15]. A liver is a body's biggest inward organ. A liver is known as a body's metabolic processing plant due to a vital part it plays during digestion the way cells change nourishment into vitality after sustenance is processed and retained into the blood [16]. Hepatocellular carcinoma is a main source of death in patients with liver cirrhosis, in addition to management for hepatocellular carcinoma is complicated through liver cirrhosis during over

80% of patients [17]. By gut microscopic organisms' Hepatic encephalopathy is believed to be identified with lethal mixes created, for example, smelling salts, mercaptans, as well as short-chain unsaturated fats along with phenols. These mixes are elated through the entrance vein just before the liver, anywhere nearly all are regularly utilized or else discharged instantly. To metabolize those waste yield in patients with cirrhosis, injured hepatocytes are not capable, as well as blood can bypass portal venous the liver during collateral movement or else a medically assembled shunt [18]. The indications of hepatic encephalopathy could be inconspicuous; the stipulation ought to be considered inside any patient among cirrhosis. The paracentesis ought to be achieved amid the hospitalization inside that the encephalopathy is analyzed [19]. Non-absorbable disaccharide is a Lactulose that is accepted to incite retention of nitrogen into the microscopic organisms of the fecal greenery, making it less accessible to create absorbable ammonia [19]. On the off chance that a patient has repaid cirrhosis, at that point screening endoscopy ought to be perform inside a year to distinguish clinically quiet varices and rehashed each one to two years. Condition of cirrhosis is confounded (i.e., with dying, encephalopathy, ascites, hepatocellular carcinoma, or hepatopulmonary disorder), screening endoscopy ought to be achieved inside three months [20].

Liver transplantation is considered as a viable treatment option for patients with acute liver failure and end-stage liver disease. In liver cirrhosis, transplantation is generally considered when a patient has suffered from either a complication of portal hypertension or a manifestation of compromised hepatic synthetic function [21]. However, given the high costs, mortality rate, and the paucity of donor organs, transplantation is currently justified only in the case of long-term prognosis, and psychological, intellectual, financial and family support. Accordingly, patients may be considered as current, future or inappropriate candidates. Selection consists of a search for contraindications and PCPs are actively involved in this process (i.e. alcohol and drug use) [22]. Currently, patients are generally put on a waiting list once Child-Pugh class B or a MELD score of over 13 is reached [23]. Onset of complications may anticipate referral, but severely decompensated or debilitated patients are generally discarded.

### PREVENTION

The medication process of patient will be monitored and controlled as liver Cirrhosis patient can't take any medicine like a normal person. It is important for the patient to constantly remain in touch with any doctor and healthcare provider, and use any medications with their supervision. Moreover, it is important for the patient that he/she takes all kind of advised precautions to avoid any sever conditions [23].

#### Primary prevention

The role of PCPs is important for this issue. The most attractive form of protection for liver cirrhosis is to prevent or slow the evolution of several risk factors triggering the hepatitis-fibrosis sequence. Mass infant vaccination has proven extremely effective in preventing hepatitis B infection. Screening blood donors effectively reduces hepatitis C transmission (LEVEL I).

#### Secondary prevention

This step aims at preventing the appearance of cirrhosis in patients with chronic liver disease and includes etiologic treatment for viral hepatitis, alcohol abstinence, phlebotomy in hemochromatosis, weight loss and improving insulin resistance in NASH patients. Early detection of HCC by six-monthly ultrasonography and blood alpha-fetoprotein measurement may allow successful liver transplantation or mini-invasive treatments (LEVEL I).

#### Prevention of infections

Vaccine immunization against hepatitis A and B, pneumococcus and influenza is important in preventing general status deterioration. SBP

recurrence can be reduced by antibiotic prophylaxis (once-daily 400 mg norfloxacin or once-weekly 750 mg of ciprofloxacin).

#### **How to Remain Healthy with Liver Cirrhosis**

Liver Cirrhosis can be dangerous for the patient's body, as muscles may get weaker and nutrients may to avoid get less. These things can have bad impact on health of the patient, so to avoid any serious issues; the patient must eat diet which is considered healthy such as vegetables, fruits as well as lean protein. The patient should also limit its use of salt or it is advised to totally avoid salt in diet [24].

#### **Take Medicine with Care**

When Cirrhosis is fully developed in the liver, then liver's capacity to perform its various functions is totally limited. The process of using and removing medicines is harder in Cirrhosis. It is advised that over-the-counter drugs are not taken without any proper guideline from Doctor. The herbal medicine should also be avoided.

#### **Get Vaccination**

The liver Cirrhosis is dangerous for human life in so many ways. And a considerable damage is that immune system of the patient gets weak. Due to weaker immune system, it is difficult for the liver to fight against various kinds of infections. So, the patient must get vaccination for the flue, and hepatitis A & B [25].

#### **Lose Weight**

Weight gain in case of liver Cirrhosis is a risky thing for the patient. If blood sugar levels are controlled along with losing considerable weight, then a patient can feel better and healthier as compared to the ones, who have gained too much weight [25].

#### **DISCUSSION:**

Early detection of cirrhosis and portal hypertension is now possible using simple non-invasive methods, leading to the advancement of individualized risk stratification in clinical practice. Despite previous assumptions, cirrhosis can regress if its etiologic cause is effectively removed. Nevertheless, while this is now possible for cirrhosis caused by chronic hepatitis C, the incidence of cirrhosis due to non-alcoholic steatohepatitis has increased dramatically and effective therapies are not yet available. New drugs acting on the dynamic component of hepatic vascular resistance are being studied and will likely improve the future management of portal hypertension [26].

Portal hypertension is the major driver in the transition from the compensated to the 'decompensated' stage of cirrhosis, defined by the presence of clinical complications, including ascites, bleeding from gastroesophageal varices,

spontaneous bacterial peritonitis, hepatorenal syndrome, and hepatic encephalopathy. Further decompensating episodes are often triggered by bacterial infections, and are associated with a very high mortality risk. From a prognostic point of view, compensated and decompensated cirrhosis are dramatically different, and can be considered as two separate diseases. Furthermore, within these two major stages, several sub-stages with varying risk of further decompensation and death can be identified. Knowledge of the pathophysiological mechanisms driving the transition within these stages is key in the current management of cirrhosis. Besides its negative impact on life expectancy, cirrhosis implies several other burdens, including a marked increase in healthcare costs due to hospitalization and treatment (estimated at approximately \$2.5 billion per year in the US), loss of productivity (estimated at \$10.6 billion per year in the US), and a marked reduction in quality of life. These burdens are almost exclusively caused by complications during the decompensated stage. An early diagnosis of cirrhosis, i.e., within the compensated stage, and an accurate risk stratification are key to the following steps. Indeed, in the author's opinion, the use of resources at this initial step (e.g., initiation of HCC surveillance, endoscopic screening of varices needing treatment in patients at high risk, prevention of decompensation by appropriate non-pharmacological and pharmacological therapy) is largely justified by the expected survival benefits [27].

#### **CONCLUSION:**

Liver cirrhosis has an increasing prevalence worldwide, which matches the increasing diffusion of viral hepatitis infection, and metabolic steatohepatitis and fibrosis. Managing cirrhotic patients at home is challenging but cost-effective, although this policy requires active collaboration between PCPs and specialists, as well as nurses and paramedical staff. Currently, cirrhosis is considered a dynamic disease able to progress and regress. In this new way of understanding the spectrum of changes characterizing ACLD, early diagnosis, prior to the occurrence of decompensation, is an important step to achieve a reduction in mortality due to CLD since several different pharmacological and non-pharmacological approaches can be used during this phase to prevent decompensation (an ominous step in the natural history of this disease). Ultrasound elastography of the liver allows an accurate non-invasive identification of patients with ACLD, with the additional advantage of providing a numerical surrogate of the risk of portal hypertension and complications. Prevention of decompensation is possible by reducing portal pressure through measures aimed at eliminating all the possible sources of injury (etiology and cofactors), at reducing intrahepatic resistance (e.g., by correcting

intrahepatic endothelial dysfunction), and at reducing Porto collateral flow. Long-standing drugs, such as NSBBs, remain the mainstay for portal pressure reduction and are able to prevent not only variceal bleeding, but also other more frequent decompensating events such as ascites. After decompensation, therapy should be aimed towards avoiding further decompensation and death, with statins being promising in these cases. TIPS is effective in decreasing the risk of variceal rebleeding and improves mortality in patients with recurrent and refractory ascites. The extent to which modulating the gut microbiota impacts the natural history of decompensated cirrhosis remains unknown, yet antibiotics already play an important role in the prevention and treatment of severe bacterial infection in decompensated patients. Unfortunately, despite the indubitable improvement in the management of portal hypertension, severe liver failure cannot be reversed.

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