

Liver Cirrhosis- Mini Review with a Case Report

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Abstract

Liver cirrhosis is a diffuse process characterized by liver necrosis, fibrosis and conversion of normal liver architecture into structurally abnormal nodules that lack normal lobular organization. It is a late stage of scarring of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism. Lifestyle modifications reduce risk of cirrhosis. Clinical management includes etiological treatment, prophylactic treatment, pre-transplantation care and liver transplantation.

Keywords: Liver Cirrhosis; Symptoms and Management.

Introduction

Liver cirrhosis has many possible causes; sometimes more than one cause is present in the same person. Globally, 57% of cirrhosis is attributable to either hepatitis B (30%) or hepatitis C (27%) Alcohol consumption is another major cause, accounting for about 20% of the cases. [1] It occurs in response to damage to your liver. Each time when liver is injured, it tries to repair itself. In the process, scar tissue forms. As cirrhosis progresses, more and more scar tissue forms, making it difficult for the liver to function. The liver damage done by cirrhosis generally can't be undone. But if liver cirrhosis is diagnosed early and the cause is treated, further damage can be limited and, rarely, reversed. [2]

Macroscopically, the liver is initially enlarged, but with the progression of the disease, it becomes smaller. Its surface becomes irregular, the consistency is firm, and the color is often yellow, if associated with steatosis. Depending on the size of the nodules, there are three macroscopic types: micronodular, macronodular, and mixed cirrhosis. In the micro nodular form or portal cirrhosis, regenerating nodules are less than 3 mm. In macro nodular cirrhosis or post-necrotic cirrhosis, the nodules are larger than 3 mm. Mixed cirrhosis consists of nodules of different sizes. However, cirrhosis is defined by its pathological features on microscopy: the presence of regenerating nodules of hepatocytes and the presence of fibrosis, or the deposition of connective tissue between these nodules. Fibrosis can also proliferate even if the underlying process that caused it has resolved or ceased. The fibrosis in cirrhosis can lead to destruction of other normal tissues in the liver. [3]

Complications include Ascites, Esophageal variceal bleeding, Hepatic encephalopathy, Hepatorenal syndrome, Spontaneous bacterial peritonitis, Portal hypertensive gastropathy, Infection, Hepatocellular carcinoma.[4-6] The gold standard for diagnosis of cirrhosis is a liver biopsy, through a percutaneous, transjugular, laparoscopic, or fine-needle approach. A biopsy is not necessary if the clinical, laboratory, and radiologic data suggests cirrhosis. [7]

Lifestyle interventions reduce risk of cirrhosis by taking care of liver. These include:

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Avoiding alcohol, eating a healthy diet as fruits and vegetables, whole grains and lean sources of protein, less amount of fatty and fried foods and Caffeinated coffee may protect against fibrosis and liver cancer [8] maintaining a healthy weight, reducing risk of hepatitis, as sharing needles and having unprotected sex can increase risk of hepatitis B and C, eating low-sodium diet as excess salt can cause body to retain fluids, worsening swelling in abdomen and legs. Avoiding infections, cirrhosis makes it more difficult to fight off infections and using over-the-counter medications carefully, avoid drugs such as aspirin and ibuprofen and use a lower dose of acetaminophen. [9]

Clinical management includes etiological treatment, prophylactic treatment, pre-transplantation care and liver transplantation. Treatment guidelines include: antibiotics to treat infections, laxatives, such as lactulose, to decrease the risk of constipation, alcoholic cirrhosis caused by alcohol abuse is treated by abstaining from alcohol, treatment for hepatitis-related cirrhosis involves medications used to treat the different types of viral hepatitis, such as interferon or oral antiviral such as entecavir and tenofovir in patients of cirrhosis due to Hepatitis B prevents progression of cirrhosis, treatment of autoimmune hepatitis related cirrhosis involves corticosteroids, cirrhosis caused by Wilson's disease is treated with chelation therapy to remove the copper for example, penicillamine. [2]

If complications cannot be controlled or when the liver ceases functioning, liver transplantation is necessary. Survival from liver transplantation has been improving over the 1990s, and the five-year survival rate is now around 80%. The survival rate depends largely on the severity of disease and other medical risk factors in the recipient. Transplantation necessitates the use of immune suppressants. [10]

Objectives

To elaborate liver cirrhosis background including causes, features, pathology, complications, prevention and treatment.

To make a pharmaceutical care plan of a liver cirrhosis patient.

Case presentation

27 years old married female with body weight 45kg presented with chief complaint of pedal edema, abdominal distention and abdominal pain since one month. She was hypertensive during her pregnancy and c-section was performed two months ago. Laboratory test CBC, LFT, RFT, serum electrolytes and total proteins was performed which showed increase level of ALT and AST and decrease Hb. Ultrasound report showed coarse liver and spleenomegaly.

Recommended drugs for present illness

Tab aldosterone 10mg O.D, Inj furosemide 10mg iv B.D, Inj flagyl 500mg iv T.D.S, Syp Duphalac 2tbsp B.D, Inj Lasix 20mg iv B.D, Tab Zestril 5mg HS, Tab Panadol 2tabs SOS

Interventions

Management of drug related problems

Two diuretics should be reduced to one.

Paracetamol should be replaced by other antipyretic.

Lisinopril is contraindicated in angioedema it should be replaced by Beta blockers.

Antibiotics must be prescribed.

Promote nutrition

Support with specific vitamins and minerals.

Enteral or parenteral feedings may be ordered.

Assist with paracentesis, if needed

Patients may require the abdominal fluid that has built up (ascites) to be drained. Assist in set-up, positioning, and post-procedure site assessments and monitoring as needed.

Daily weights

This indicates if fluid has been accumulating, or if patient is losing weight

Dietary adjustments: decrease protein, decrease sodium, restrict fluids

This will decrease the amount of fluid that may accumulate

Initiate bleeding precautions

Coagulation factors are created in the liver, and if the liver is compromised it can affect these factors, and therefore put the patient at a higher risk for bleeding

Conserve energy

Patients with cirrhosis tire easily; cluster care and conserve energy so they can prioritize energy use to mealtimes and self care.

Reassessment

Review the data base and medical care plan, monitor patient on daily bases for excess fluid volume, assess daily weight and blood pressure, note and address electrolyte imbalances and finally complete a careful and comprehensive respiratory assessment (vitals, labs, auscultation).

Discussion and Conclusion

Patient was suffering from liver cirrhosis secondary to hepatitis which is irreversible state. Her chief complaints were abdominal pain, abdominal distension and pedal edema. USG report showed end stage liver cirrhosis, coarse and necrotic liver. The risk behind this severe suffering was the hepatitis in the past left untreated which appeared as a complication, patient was on palliative care to provide patient with relief from the symptoms, pain, and stress of a serious illness, such as cirrhosis. The goal of palliative care is to improve quality of life for both the patient and the patient's family and it is appropriate at any stage and for any type of cirrhosis.[11] Desired outcomes of such patient should be to minimize continued liver damage, optimize

nutrition, maximize hepatic circulation, minimize and prevent respiratory complications.[9] Lifestyle interventions are beneficial including smoking cessation and stop drinking alcohol, limit salt in diet, get vaccinated for hepatitis A & B, and pneumococcal pneumonia. Liver damage from cirrhosis cannot be reversed, but the treatment could stop or delay further progression and reduce complications. [12]

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