Nutritional therapy may slow down cirrhosis

One in 400 citizens of western industrialized countries suffers from chronic liver disease or its end-stage, liver cirrhosis. The only definite cure for this is a liver transplant, but the scarcity of organs and required immunosuppression render liver transplant neither a general nor an optimal solution. Taking into account the huge regeneratory capacity of the liver, treating the cause (curing hepatitis C virus infection, for example) and withdrawal of other damaging agents such as alcohol is the best option for any liver disease. However, when end-stage is reached, the complications of liver cirrhosis may even occur when the cause is treated. In these patients, the only option is slowing down the disease by any means. One way to do so is to avoid malnutrition, which, as has been shown by several studies, affects survival and severity of complications in cirrhotic patients.

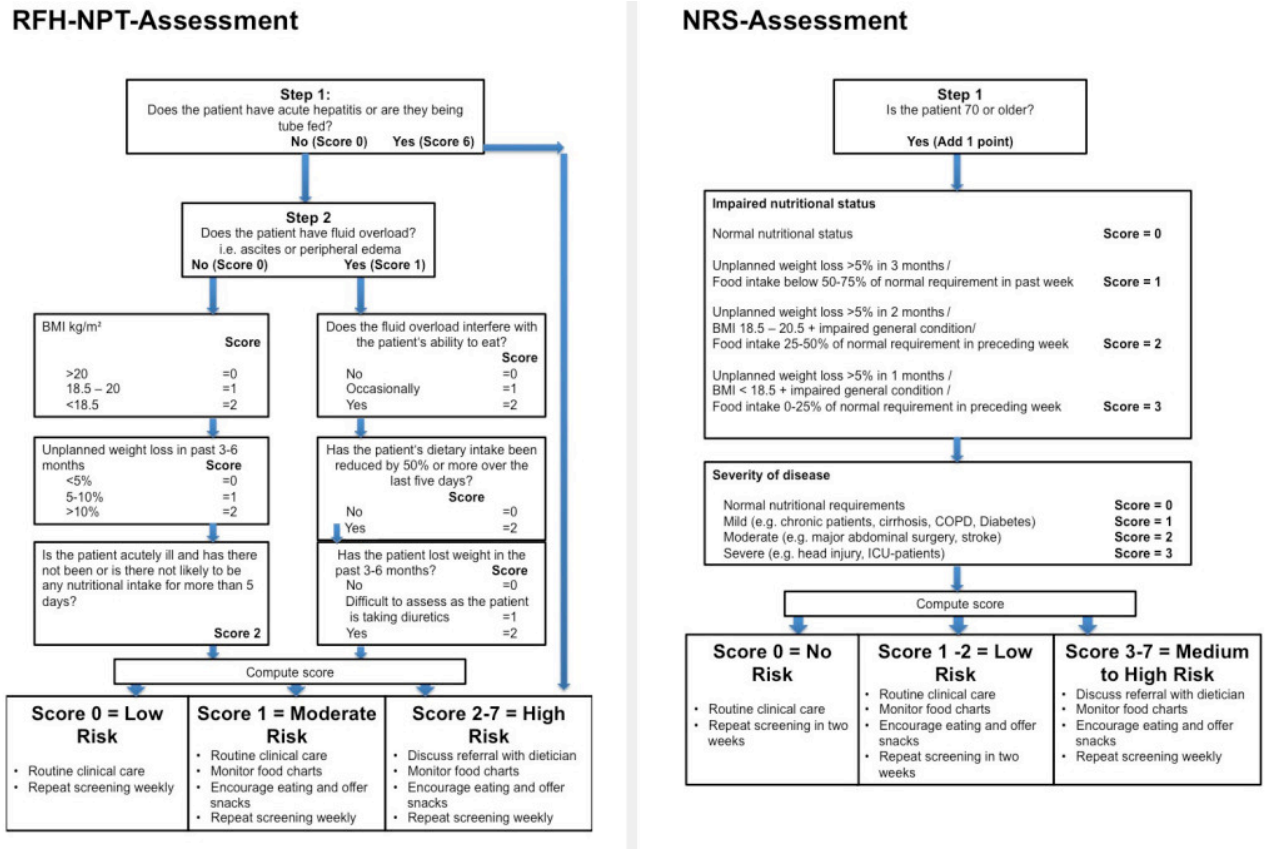

Fig. 1.

Among the many signs of decreased liver function, protein imbalance with resulting fluid overload (e.g. ascites or generalized oedema) and accumulation of toxic metabolites (worst case scenario: hepatic coma) are the ones that are closely related to food intake. However, a correct evaluation of the nutritional state in cirrhotic patients is a difficult task since the commonly used assessment

tools, the BMI for example, are based on weight and/or protein balance, both of which are affected by complication of cirrhosis. Patients suffering from severe fluid overload with ascites and oedema could present a normal BMI while being severely undernourished. A better or more precise evaluation of the nutritional state usually requires not only several hours of time but also highly specialized equipment and personnel, all of which can be very hard to come by at an average hospital. A simpler method could be to evaluate the patient's risk for malnutrition instead of the nutritional state itself, which can be done in a couple of minutes by anyone with a basic medical training like a nurse or a medical student. Therefore, we compared the use of two different nutritional risk scores, the more general Nutritional Risk Screening or NRS and the highly cirrhosis-specific Royal Free Hospital – Nutritional Prioritizing Tool, RFH-NPT, in predicting the clinical deterioration and transplant-free survival in patients with chronic liver disease, and here's what we found:

> The risk for malnutrition as evaluated by the RFH-NPT correlated with the severity of the disease (measured in known clinical scores such as Child- and MELD-Score) and clinical complications such as ascites, hepatorenal syndrome (HRS, liver and kidney failure due to liver insufficiency without kidney disease) and episodes of hepatic encephalopathy (cerebral and cognitive dysfunction)
> RFH-NPT score correlated with the quality of life assessed by chronic liver disease questionnaire (CLDQ)
> RFH-NPT-Score is an independent predictor of clinical deterioration and transplant-free survival
> RFH-NPT was able to identify patients with poor prognosis (as an independent predictor of disease progression as shown by the deterioration of the MELD-Score in our patients)
> Improvement of RFH-NPT within 6 months was associated with improved survival

The fact that decreasing the risk for malnutrition may actually lead to fewer complications and a longer survival without transplantation is new and highlights the importance of nutrition in cirrhotic patients.

So, in conclusion, RFH-NPT Score correlates with clinical deterioration, quality of life and a number of cirrhosis-specific complications in addition to mortality or need for liver transplantation. Therefore, assessing the patients' risk for malnutrition by RFH-NPT and adjusting their food intake accordingly may be beneficial especially for patients in the early stages of chronic liver disease.

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