

## Biotechnology-2013 : Nutritional management cirrhosis of the liver disease: A case report - Verona Mulgrave - Howard University

Verona Mulgrave, Oyonomo Ntekim and Chimene Castor

Howard University, USA

**Statement of the Problem:** According to the national center for health statistics, cirrhosis of the liver is the 12th leading cause of death in the US and it is primarily caused by alcoholic liver disease. National center for health statistics indicated cirrhosis is higher in blacks than in whites and the highest mortality rate is among Hispanics. Results from NHANES suggested that the frequency of steatohepatitis and cirrhosis varies significantly by ethnicity of 45% Hispanics, 33% whites and 24% among blacks, Mexican Americans and Blacks have a greater risk of developing liver diseases than their white counterparts. **Methodology & Theoretical Orientation:** The objective of this study is to investigate the importance of specific nutrients in the nutrition management of cirrhosis of the liver. This study was a single-subject case report of a 49-year-old African American male that was diagnosed with several comorbidities including idiopathic cirrhosis of the liver. This subject was chosen at random from the Howard University Hospital. Data was gathered from both primary and secondary sources including medical records, interview of nurses and patient's interview. Patient underwent paracentesis and thoracentesis (thoracentesis) to remove excess fluids. Dietary recall and food charts were used to gather dietary information and to monitor intake over a two week period. Dietary intervention was completed over a 3-weeks period. Post examinations were completed including physical and medical examinations, dietary evaluation as well as biochemical data collection. All data were analyzed against standards. **Findings:** 49-year-old African American male with social history of smoking tobacco was admitted due to abdominal pain and distention for 2-weeks. Patient was diagnosed with cirrhosis of the liver, dyslipidemia, hypertension, fluid overload, diabetes mellitus and chronic renal insufficiency. Physical examination reveals the presence of ascites, jaundice and scratch marks, skin rashes and skin discoloration. Nutrition focus finding reveals that patient was emaciated, had temporal wasting, bilateral edema as well as several incidences of vomiting and constipation. Patient underwent paracentesis and thoracentesis to remove excess fluids. Prior to being hospitalized patient was consuming a high sodium, high fat diet and was noncompliant with previous diet regiment. The patient was discharged after eight days of hospitalization. **Summary of Investigation:** Patient had several nutrition diagnoses including

malnutrition, inadequate oral intake and impaired nutrient utilization and increase energy and nutrient requirements. Goals for treatment included providing adequate energy, protein vitamin and minerals as well as improvement in nutritional by promoting weight maintenance. Patient's weight was stabilized on a 1000 ml-1500 ml fluid restriction, 1800 kcal and 75 g of protein diet. Patient had a fair appetite (consumed 60% of 3 meals per day). Patient's liver condition was stabilized with a diet prescription of 2 g Na diet, CHO controlled, medium chain fat supplementation and multivitamin supplementation as evidenced by stabilized lab values for AST, ALT, ALP, PT and PTT. Lab values of LDL, TAG was normalizing after the reduction in fat and cholesterol diet, which was administered along with Simvastatin over a 10-day period. **Conclusion & Significance:** Nutrition plays a key role in the management of cirrhosis of the liver specifically restricting fluid and sodium, providing adequate carbohydrate, protein and medium chain fatty acid as well as micronutrients such as B vitamins and the fat-soluble vitamins.

**Assessment of nutritional status and complications for exercise management**

The contemporary guidelines for physical activity and fitness in older adults (men and women elderly  $\geq 65$  years and adults aged 50-64 years with clinically good sized chronic conditions and/or useful barriers) propose that moderate-depth cardio physical pastime ought to be executed for at the least 30 min 5 days each week similarly to 2 periods of resistance training and flexibility physical activities each week. The applicability of these pointers depends on the severity of the persistent situations and headaches. with regard to LC, irrelevant exercising may additionally purpose unwanted results due to the impaired electricity metabolism and/or complications associated with LC, inclusive of ascites, hepatic encephalopathy, portal high blood pressure, and hepatopulmonary syndrome. for instance, in patients with LC, portal stress and portal hypertension reportedly increased with slight workout (30% of the most), suggesting that such physical load poses a danger for variceal bleeding. furthermore, exercise underneath insufficient nutrient consumption can sell protein catabolism and thereby a loss of skeletal muscle tissue in LC patients. The evaluation of dietary reputation and complications is consequently mandatory earlier than any exercising control of LC patients.

**Exercise regimens for LC patients**

The ideal exercising regimens for LC patients remain uncertain. however, there are some preliminary data with regard to efficacious exercise management for LC patients. recently, primarily based on a survey of compensated LC sufferers, researchers advocated the following exercise routine: strolling 5000 or more steps in step with day with a complete caloric intake of approximately 30 kcal/perfect frame weight.

#### CONCLUSION

considerable records exist surely demonstrating that PEM confers a chance of negative survival in LC sufferers. PEM in LC sufferers is exceedingly related to sarcopenia and a decrease in serum albumin degrees. those situations have additionally been stated to be predictors of poor patient survival. nutrients and exercise control can improve PEM and sarcopenia in LC patients. nutrients control includes enough dietary intake and an development of impaired nutrient metabolism. In assessment, the current upward push in weight problems prevalence has increased the

quantity of overweight LC sufferers. restriction of immoderate caloric intake without exacerbation of impaired nutrient metabolism is vital for those sufferers. BCAAs are top candidates for supplemental vitamins for each obese and non-overweight LC patients. workout management can growth skeletal muscle quantity and power and may enhance insulin resistance; but, evaluation of nutritional reputation and LC complications is obligatory earlier than the implementation of an exercising program for LC sufferers. The status quo of most appropriate exercise regimens for LC sufferers is required. parent indicates a tentative practical approach for handling LC patients with sarcopenia or sarcopenic weight problems. The in addition development of techniques for nutrients and workout control will enhance the overall health effects of LC patients.

[verona.mulgrave@gmail.com](mailto:verona.mulgrave@gmail.com)