Malnutrition in cirrhotic patients: prevalence and characteristics

A. Ait Errami [*]**, Z. Samlani , O. Oubaha , K. Krati**

Service d'hépatogastroentérologie ,CHU Med VI , Marrakech

ABSTRACT

Dernutrition is common in cirrhotic patients. This is an important prognostic factor. We report preliminary results of a prospective study in the department of Hepato-Gastroenterology, University Hospital of Marrakech from February to December 2015, 48 cases colligeant liver cirrhosis. The purpose of this study was to determine the prevalence of malnutrition in hospitalized cirrhotic patients in our training and clarify the epidemiological characteristics and biological clinco-malnourished cirrhotics our assessment of nutritional status was performed based on anthropometric measurements and data from laboratory tests. The diagnosis of malnutrition was retained before a weight loss greater than 10% or a decrease in the arm circumference (CB) or BMI below standard values. The etiology of cirrhosis was viral in 20 patients (%), it was classified as Child-Pugh A, B and C respectively at 12, 22 and 14 patients. Malnutrition was found in 30 patients (62.5%). the decrease in arm circumference was found in 54.16% of malnourished patients. By cons, there was no significant difference in the values of biomarkers between patients malnourished and not malnourished. A positive correlation was found between the presence and severity of undernutrition and severity of cirrhosis. Before these results we conclude that malnutrition is common in patients with cirrhosis in our context, that anthropometric measurements are reliable for the diagnosis of malnutrition in cirrhosis and the prevention of malnutrition and nutritional support should occupy more space in the care of our patients with cirrhosis.

Key-word : undernutrition - cirrhosis, anthropometric measurements.

INTRODUCTION

Malnutrition is a common complication of liver cirrhosis. Its prevalence varies from 20 to 60% in different studies [1; 2]. It is an independent predictor of morbidity and mortality in cirrhotic patients [3]. Its not yet fully understood pathophysiology appears to be multifactorial. [4]

The main objective of our study was to determine the prevalence of malnutrition in hospitalized cirrhotic patients. Moreover, we also tried to assess the impact of various factors on the nutritional status and validity of different clinical and biological parameters in the diagnosis of malnutrition in cirrhotic patients.

MATERIALS AND METHODS

Patients and methods: This is a prospective study of 48 cases of liver cirrhosis hospitalized in the Gastroenterology Service of Hospital Med VI during the period from February to December 2015.

The diagnosis of cirrhosis was retained on a clinical arguments beam , biological, morphological and endoscopic. For all patients (100%), they were asked a minimum etiologic makes viral serology hépatitiques B and C and autoantibodies. It also ranked the prognostic stage patients according to classification and Child Pugh.

The assessment of nutritional status was performed on admission of patients by anthropometric measurements. Thus, it was considered malnourished any patient with a loss of greater than 10% compared to conventional weight, and / or arm circumference (CB) of less than 26 cm for men and 24 cm for women, and / or a body mass index (BMI) of less than 20 kg / m2. Malnutrition was classified as severe weight loss reported was higher than 20% or BMI below 18 kg / m2.

RESULT AND DISCUSSION

o Description of the population:

These 28 women and 20 men (sex ratio = 0.71). They had a mean age of 53.6 years (range from 24 to 72 years). 32 patients with cirrhosis diagnosis was made before the current hospitalization. As against it was new in 16 other patients. Cirrhosis was viral in 41.6% of cases, alcohol in 8.3% of cases secondary to CBP in 8.3% of cases and it remained unknown origin in 41.6% of cases. Of these patients, 45.8% were classified as Child B, Child C classified 29% and 25% were so-called Child A.

o Nutritional status of 48 patients studied:

Malnutrition was found in patients (62.5%). She was ranked harsh in 33.5% of cases, moderate in 29% of cases and mild in 47.5% of cases. The distribution of nutritional status is presented for each Child-Pugh score (Figure 1). The higher the score was high over the proportion of malnourished patients and the severity of undernutrition increased. 65% of patients with Child-Pugh B and 80% of those with Child-Pugh C were malnourished
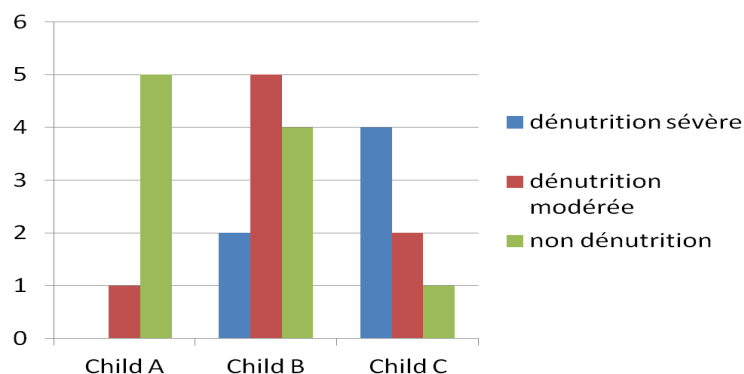

Figure 1: Distribution of nutritional status according to the Child-Pugh score

o The various nutritional parameters:

More than half (54.16%) of patients had CB below the pre-established thresholds, 20.8% of them had a BMI below 20 kg / m2 and only 4.16% of patients notaient loss greater than 10% by weight.

On biological parameters (Table 1), a comparison between the average of the measured parameters between patients with or without malnutrition was no significant difference between the 2 groups outside the hemoglobin which were lower in case of undernutrition.

Biological parameter	malnourished patients (n=15)	Non-malnourished patients (n=9)	P-value
Albumine (g/l)	27,8	29,4	0,31
Hb (g/dl)	8,5	11	0,008
CRP (mg/l)	16,3	15,1	0,95
Cholestérol (g/l)	2,1	2,2	0,48
Créatinine (mmol/l)	22	19,6	0,41
Glycémie (mmol/l)	6,9	6,5	0,46
Calcémie (mmol/l)	1,8	2,1	

Discussion:

The prevalence of undernutrition, moderate and severe combined, in cirrhosis, is very high. It varies in the literature from 20 to 60% according to the authors [1,2]. In our series, this prevalence was in the upper range. Anthropometric measurements used allowed to screen all patients malnourished regardless of the presence of ascites or edema, parameters that make a classical nutritional assessment difficult. In a study of Caregero [5] determining anthropometric parameters PCT and CMB appears as the most accurate and most reliable method of assessing nutritional status, since usable even in patients with fluid retention. For biochemical markers of nutritional status (such as albumin and prealbumin) which are synthesized by the liver. In cases of liver failure, the interpretation of these markers is ambiguous because their variations can result from liver failure itself, of malnutrition or a combination of both. They do not represent a reliable indicator of nutritional status in patients with cirrhosis. [6] Metabolic abnormalities contributing to undernutrition and deficiencies in cirrhosis are represented primarily by an increase in resting energy expenditure (hypercatabolism in parallel with a lack of protein synthesis). It is estimated that among patients with cirrhosis, 30% have a severe hypermetabolism, 50% moderate and 20% are hypermetabolism normométaboliques [7]. The degree of hypermetabolism is even more intense than the Child score is high. [8] The degree of hypermetabolism is also influenced by the cause of the cirrhosis. Indeed, it seems more marked in cases of alcoholic cirrhosis due to [8]. It is well established that malnutrition increases morbidity and mortality in cirrhotic patients, whether or not candidates for transplantation. [9] Despite this, the practical interest of nutritional assistance to date remains controversial in subjects with cirrhosis awaiting transplantation. [10] This controversy is due partly to the fact that it is difficult to correct malnutrition in patients reach of advanced liver disease (including with energetic assistance) and, secondly, the fact that one has little time (weeks to months) to significantly improve the nutritional status during the period of waiting for a transplant.

CONCLUSION

The evaluation of undernutrition by biological and technical anthropometric usual is often biased by liver failure and fluid retention. Independent assessment techniques of these confounding factors would be useful.

The practical usefulness of nutritional assistance during cirrhosis (especially in candidates for liver transplantation) still poses a number of questions.

REFERENCES

[1] O'Flynn J, Peake H, Hickson M, Foster D, Frost G.The prevalence of malnutrition in hospitals can be reduced: Results from three consecutive cross-sectional studies. *Clinical Nutrition* **2005**;24:1078-88.

[2] E Guex, S Bouvry, M Cheseaux et al. Prévalence de la dénutrition chez 143 adultes en bilan prétransplantation hépatique: Expérience lausannoise de 1997 à 2005. Rev Med Suisse. **2008**;4:927-930.

[3] Merli M, Riggio O, Dally L. Does malnutrition affect survival in cirrhosis? PINC (Policentrica Italiana Nutrizione Cirrosi). *Hepatology* **1996**;23:1041–1046.

[4] K Cheung, SS. Lee, M Raman . Évaluation de l'état nutritionnel des malades cirrhotiques : méthodes, limites et implications. Hépato-Gastro, septembre-octobre **2004**.,11(5).

[5] Alberino F, Gatta A, Amodio P, et al. *Nutrition and survival in patients with liver cirrhosis. Nutrition 2001;17:445-50.*

[6] Naveau S, Belda E, Bortto E. Comparaison of clinical judgement and anthroprometric parametres for evaluatinf nutritional status in patients with alcoholic liver disease . *J Hepatol.* **1995** , 23, 234-5

[7] Campillo B, Bories P, Pornin B. Energy expenditure and the use of nutriments in cirrhotic patients fasting and at rest. Influence of alcoholic hepatitis and the severity score of the disease. Gastroenterol Clin Biol **1989**;13(6–7):544–50.

[8] Schneeweiss B, Graninger W, Ferenci P. Energy metabolism in patients with acute and chronic liver disease. Hepatology **1990**;11: 387–93.

[9] Campillo B, Richardet JP, Scherman E. Evaluation of nutritional practice in hospitalised cirrhotic patients: results of a prospective study. Nutrition **2003**;19(6):515–21

[10] Lowell JA. Nutritional assessment and therapy in patients requiring liver transplantation. Liver Transp Surg Sep **1996**;2(5,1):79–88.