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Correspondence

## Hospital readmission of patients with hepatic encephalopathy: Is the introduction of the formal caregiver useful in care management?

*Dear Editor,*

**In a retrospective study,** Gaspar et al. [1] have masterfully assessed the causes of the hospital readmission of patients with decompensated cirrhosis.

In 78% of the cases, the cause or contributory cause was an Alcoholic Liver Disease (ALD). In 43.8% of cases, there was actual alcohol consumption. The most correlated complication with the readmission was Hepatic Encephalopathy (HE) (45.4%). Multivariate analysis revealed that the use of lactulose and rifaximin are protective factors against readmission.

Volk et al. [2] have found that one-third of the patients with cirrhosis returned to the hospital within a month of their discharge.

**In 2018, our study consisted only of patients with ALD, and the hospital readmission occurred in high percentages** (60%)**, with the main complication being HE** (58%)**.** In our case, the cause of readmission was inadequate therapeutic compliance.

Particular attention should be paid to hepatic encephalopathy during cirrhosis that is related to Alcohol Use Disorder (AUD).

Alcohol consumption interferes peculiarly with HE and in a very different way to how it does with other etiological factors.

Ethanol is neurotoxic. It performs neurodegenerative and neurovascular actions and promotes the production and aggregation of beta-amyloid plaques. A state of chronic neuroinflammation following the activation of the microglial component is usually present [3]. A possible deficiency of micronutrients and vitamins (thiamine, B12, folate, etc.) is often present [4].

In patients with alcoholic cirrhosis, there is cerebral edema, cortical damage, and reduced "brain reserve." Furthermore, it is possible to highlight global brain atrophy [5].

To date, in the literature, there are few studies about AUD and HE, and they are based **on reduced clinical records.**

One of the most significant, and most recently studied, interferences concerns the influence that ethanol and acetaldehyde have on the intestinal microbiota [5,6].

Ethanol and acetaldehyde alter the barrier and modify the microbiota from a quantitative and qualitative point of view. **This leads** to higher production and absorption of ammonium.

In patients with alcoholic cirrhosis, the symptoms of acute intoxication, acute withdrawal, and HE may overlap.

Often, family members (informal caregivers) are left alone, poorly informed, and little helped in the management of patients with ALD and AUDs. Furthermore, psychiatric comorbidities may be present.

The critical points that emerge are the following:

- The symptoms of the two problems often overlap with those of a broad spectrum of neuropsychiatric manifestations, thus preventing adequate decisions. Bajaj et al. underline the importance of early identification **of overt HE to avoid unnecessary admissions** [7];
- compliance is often insufficient with poor therapeutic adherence (especially when it comes to the optimal intake of lactulose/lactitol and rifaximin);
- maintaining the motivation for alcohol abstention;
- management of the patient's personal needs;
- relationships with the hepatology department to which he belongs.

We believe that one of the tools that can promote therapeutic adherence and reduce hospital access is the establishment of a formal caregiver in hepatology departments. We introduced it in March 2018 (PB). A prolonged observation will be necessary before drawing definitive conclusions.

To date, few studies have dealt with this aspect.

Formal caregivers are professional subjects in the health area with socio-medical skills. Each department should provide this figure with the task of correctly informing the family caregiver and acting as a bridge with the medical-nursing staff of the department. The formal caregiver communicates with the family in case there is a need for advice and support, or to arrange further outpatient meetings with medical staff who are not included in the follow-up. Furthermore, formal caregiver will organize periodic meetings with self-help groups for informal caregivers.

**The presence of formal and well-trained caregivers – a fragile but decisive boundary between the specialist hepatologist and the family** – can improve the quality of life of the patient and the family. **Moreover, it enhances the activity** of the health service, reducing the number of accesses to the emergency room or ordinary hospitalization [8,9]. This can be translated into unquestionable economic savings.

### Conflict of interest

None declared.

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