

## REVIEW

## THERAPEUTIC MANAGEMENT OF HYPONATREMIA IN PATIENTS WITH LIVER CIRRHOSIS

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**Abstract:** Hyponatremia is frequently seen in patients with liver cirrhosis. The presence of hyponatremia in these patients has been shown to be associated with severe ascites, impaired kidney function, higher rates of hepatorenal syndrome, spontaneous bacterial peritonitis, and hepatic encephalopathy. The main physio pathological mechanisms involved in the occurrence of hyponatremia in patients with liver cirrhosis are systemic vasodilatation and increased secretion of antidiuretic hormone. The therapeutic management of these patients presents a series of particularities. At serum sodium values of less than 120 mEq/L or in presence of neurological symptoms associated with hyponatremia, water restriction of 1-1.5 L/day is recommended. The lack of response to this therapeutic measure, the drop in sodium values to less than 110 mEq/L, or severe hyponatremia in patients about to undergo liver transplant require the administration of hyperon saline. Other therapeutic measures that can contribute to the increase of serum sodium values include the correction of hypokalemia and the intravenous administration of albumin. The only situation in which vaptan can be administered orally remains severe hyponatremia in patients awaiting liver transplantation. Patients with liver cirrhosis and hyponatremia require careful monitoring due to the increased risk of complications and death.

**Keywords:** hyponatremia, liver cirrhosis, treatment, prognosis.

DOI <https://doi.org/10.56082/annalsarscimed.2022.2.13>

## INTRODUCTION

Hyponatremia is the most frequent hydroelectrolytic disorder diagnosed among hospitalized patients [1]. Hyponatremia is defined by the reduction of serum sodium values below 135 mEq/L [2]. In patients with liver cirrhosis, hyponatremia is particularly defined by the decrease of serum sodium values below 130 mEq/L [3]. A study that followed 997 patients with cirrhosis reported the identification of serum sodium values  $\leq 135$  mmol/L in 49.4% of patients,  $\leq 130$

mmol/L in 21.6%,  $\leq 125$  mmol/L in 5.7%, and  $\leq 120$  mmol/L in 1.2% of patients [4]. Also, no large differences regarding serum sodium values  $\leq 135$  mmol/L were seen between inpatients and outpatients (57% vs 40%) [4]. The same authors identified a directly proportional relationship between hyponatremia and severe ascites, high frequency of spontaneous bacterial peritonitis, hepatic encephalopathy, and hepatorenal syndrome [4].