

## Hyperglycemia in cirrhotic patient, a problem that shouldn't be underestimated

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### Background

An association between diabetes mellitus (DM) and liver cirrhosis is well-known. Some authors estimated a prevalence of about 30% of DM in cirrhotic patients. In these patients is important apply a careful blood glucose monitoring for a early diagnosis of diabetes. We report a clinical case of common practice, but very important in its simplicity.

### Case History

P.A., age 51, male, drinker about 2 L of wine daily. In April 2023, due to asthenia, the patient practiced blood test that showed anemia (Hb=6.7 g/dl). For this reason the patient hospitalized in other city Hospital. During hospitalization were performed blood transfusions, blood test, abdominal ultrasound, EGDS and Colonoscopy. On 20<sup>th</sup> April, he was discharged with diagnosis of: "Anemia due to hemorrhagic gastritis in liver cirrhosis alcohol related. Portal Hypertension.

On 26<sup>th</sup> April, the patient was hospitalized in our department of Internal medicine for acute on chronic liver failure. Blood tests performed in urgency and not fasting showed: Hb= 8.9 g/dl, INR= 2.7, Total Bilirubin= 14.3 mg/dl, Albumin= 1.8 g/dl, creatinine= 0.69 mg/dl, glycemia= 147 mg/dl, Procalcitonin and protein C reactive were normal.

Were performed: Chest radiography, ECG and ultrasound that showed ascites. We performed paracentesis without evidence of peritoneal infections. The patients presented a good clinical course, the bilirubin and INR decremented, the HbA1c was 4.7%,

the glucose in urine was negative. During the observation, only a fasting glycemia was 168 mg/dl, we supposed due to acute liver failure. The patient was discharged on 10<sup>th</sup> May and recommended hepatologic follow-up in ambulatory.

On 25<sup>th</sup> May the patient presented for ambulatory control, he performed blood test that showed Bilirubin= 5.1 mg/dl, INR= 1.7, Hb= 9.2 g/dl. There was no evidence of ascites at ultrasound. Glycemia was not performed. The patient lamented severe asthenia and weight loss.

On 7<sup>th</sup> June presented urinary tract infection resolved with antibiotic therapy, prescribed by general practitioner. The urine test showed presence of glucose.

On 28<sup>th</sup> June the patient returned in ambulatory with severe asthenia and weight loss. He performed home glucose monitoring that showed Glycemia values over 500 mg/dl. The patient was referred to urgent diabetes counseling and started insulin therapy. Actually, he continues insulin therapy with normalization of glycemia values.

### Discussion

The patient presented the first signs of diabetes during hospitalization (once fasting glycemia= 168 mg/dl), but was underestimated and associated to severe acute liver failure, also because the HbA1c and urine glycemia were normal. It would be appropriate a closer monitoring of glycemia for early diagnosis of diabetes, even considering the high frequency of this pathology in cirrhotic patients.