

## Clinical Discharge Summary – Hepatic Encephalopathy

September 23, 2020

Discharge Summary

**Patient Information:** L.B., 41-year-old female**Date of Admission:** 09/19/2020**Date of Discharge:** 09/23/2020**Primary Problem:** Hepatic Encephalopathy

**Hospital Course/Summary:** LB is a 41-year-old, Native American female with a PMH of alcohol dependence consuming 1L of vodka per day, liver cirrhosis, chronic thrombocytopenia, portal hypertension, and esophageal varices with surgical band ligation, transferred via EMS from White River Indian Hospital with altered mental status secondary to hepatic encephalopathy, with an ammonia level of 136 umol/L. She was also significant for critical thrombocytopenia, a documented platelet count of 3 K/MM3 without bleeding, CT of the brain without contrast completed, and negative for acute intracranial abnormalities. Ammonia levels up to 147 umol/L during hospitalization despite lactulose 20g/30mL orally three times daily, and rifaximin 550mg orally two times daily. Ammonia now 61 umol/L, with resolved confusion after the addition of lactulose enema 200g rectally every six hours. Platelet count resolved to baseline, 48 K/MM3, after two units of platelets transfused. Hematology has no other recommended interventions at this time, as thrombocytopenia is a chronic condition secondary to cirrhosis. The interdisciplinary team was able to consult with the patient's sister throughout hospitalization, her Medical Power of Attorney (MPOA). The patient currently able to make decisions for herself and is a full code. With the current condition stable and continuing to improve, the patient is safe for discharge. Working with the case manager, the patient declines transfer to an in-patient substance abuse clinic, states, "I can do that at home." She requests to be discharged to the care of her sister at this time.

**Diagnoses:**

- Hepatic encephalopathy (K72.00)
- Hyperammonemia (E72.20)
- Thrombocytopenia secondary to cirrhosis (D69.59)
- Alcohol dependence (F10.2)
- Liver cirrhosis secondary to chronic alcohol (K70.30)
- Malnutrition, hypoalbuminemia (E46)
- Esophageal varices (I85.0)

**Procedures:**

- **CT of the Head Without Contrast – 09/19/2020**
  - No CT findings of acute intracranial abnormalities.
- **Ultrasound Abdominal Complete – 09/20/2020**
  - The main portal vein is patent with poor filling. The possibility of some underlying thrombus cannot be excluded. Follow-up exam recommended.
- **MRI Abdomen With and Without Contrast – 09/21/2020**
  - No evidence of portal vein thrombosis. The main portal vein, left, and right portal veins are small size. Nodular contour to the liver, suggestive of cirrhosis.  
  
Innumerable hypoenhancing lesions are notable, likely representing regenerating nodules. Findings of portal hypertension with periesophageal varices and dilated splenic vein, spleen more prominent.

**Consults:**

- **Hematology** – The patient was consulted for critical thrombocytopenia.  
  
Recommendations to transfuse platelets to maintain greater than 20 K/MM3, as gross

hemorrhage rarely occurs above 20 K/MM3 (Squires, 2015). Known chronic thrombocytopenia, plan to follow-up outpatient for chronic management.

- **Nutrition** – Consulted for poor oral nutrient intake, and low albumin level. Recommends small, frequent, high protein, nutrient dense meals.
- **Social Work** – Consulted to connect with Indian Services for alcohol treatment. There is currently an alcohol and substance abuse program through the patient's local Indian Community Hospital, which she can attend on an outpatient basis. Recommend follow-up with outpatient rehabilitation if currently declining in-patient services.

### **Exam**

**Subjective:** According to nursing staff, the patient appears to be alert without confusion and no pain or discomfort reports. The patient has not received benzodiazapines during hospitalization, as she does not score on the CIWA-Ar scale or report anxiety. The patient is resting comfortably in bed at this time and actively involved in discharge planning with Social Work and this provider. The patient declines to go to in-patient drug and alcohol rehab at this time and would like to be discharged home into her sister's care. Agreeable to entering out-patient drug and alcohol rehabilitation through Indian Services; information provided to both the patient and Sister at the bedside. The patient and family deny any further questions, comments, or concerns at this time.

### **Objective:**

Temp: 36.8 ° C (oral); BP: 118/75; HR: 79; RR: 16; O2 Sat: 99% on RA

Height: 5'3" Weight: 57.6 kg BMI: 24.1

### **Physical Exam:**

General: No acute distress, Alert and Oriented X3, (+) appears older than stated age

HEENT: Normocephalic, atraumatic, PERRLA, mucous membranes moist, trachea midline

Cardiovascular: S1, S2 auscultated, no murmurs/gallops/rubs, or extra heart sounds present, heart rate with regular rate and rhythm, radial and dorsalis pedis pulses +2 bilaterally

Respiratory: Bilateral lungs clear to auscultation, not adventitious sounds

GI/GU Positive bowel sounds in all quadrants, abdomen soft, non-tender to light and deep palpation

Skin/Extremities: Negative for cyanosis, pallor, jaundice or erythema, no rashes, or extremity edema present

### Discharge Laboratory Diagnostics

<u>Hematology</u>	<u>Chemistry</u>	<u>Other Labs</u>
WBC: 5.7 k/mm <sup>3</sup> RBC: 4.81 /mm <sup>3</sup> Hgb: 13.3 g/dL Hct: 38.7 % MCV: 87 fL MCH 32.2 PG MCHC: 31.1 g/dL RDW: 14.4% <b>Platelets: 48 K/uL</b> MPV: 10.6 fL Neutrophils: 49% Lymphocytes: 29% Monocytes: 15% Basophils: 1% Eosinophils: 5% Neutrophils Absolute: 2.1 k/uL	Glucose: 86 mg/dL BUN: 14 mg/dL Creatinine: 0.84 mg/dL eGFR: >60 mL/min/1.73m <sup>2</sup> Na: 135 mmol/L K: 4.2 mmol/L Cl: 100 mmol/L CO <sub>2</sub> : 21 mmol/L Anion Gap: 9 <b>Albumin: 2.4 g/dL (L)</b> Ca: 8.9 mg/dL Alk Phos: 100 IU/L <b>AST: 50 IU/L</b> ALT: 10 IU/L	<b>Ammonia 62 umol/L</b>

### Current Medications:

rifaximin (Xifaxan) 500mg PO BID

lactulose 20g/30mL PO TID

cyanocobalamin (Vitamin B12) 1,000mg PO QDay

folic acid 1mg PO QDay

multivitamin 1 tab PO QDay

omeprazole (Prilosec) 20mg PO QDay

propranolol (Inderal) 10mg PO BID

thiamine (Vitamin B1) 100mg PO QDay

**Pending Results:** None

### **Plan**

**Diet:** Upon discharge, the patient should consume a regular diet, high in protein and nutrient dense. Continue with multivitamin supplements to compensate for inadequate nutritional intake until oral intake improves, and the patient is successful with alcohol cessation (Barve, Chen, Kirpich, Watson, & McClain, 2017). According to Barve et al., there is a correlation between decreased oral food intake and mortality of the chronic alcoholic, where less than 1,000 kcal per day increases the six-month mortality rate greater than 80 percent; whereas, those consuming 3,000 kcal per day have no significant risk in six-month mortality (2017).

**Activity:** Patient to resume normal activity as tolerated.

**Medications:** Initiation of rifaximin (Xifaxan) 500mg PO BID for hepatic encephalopathy, and lower risk of cognitive decline (Drugs.com, 2019). Initiation of lactulose 20g/30mL PO TID for hepatic encephalopathy (Drugs.com, 2020). Continue with supplements cyanocobalamin (Vitamin B12) 1,000mg PO QDay, folic acid 1mg PO QDay, multivitamin 1 tab PO QDay, and thiamine (Vitamin B1) 100mg PO QDay as previously prescribed by primary care provider.

Continue propranolol (Inderal) 10mg PO BID for portal hypertension as prescribed by primary

care provider (Rodrigues, Mendoza, & Bosch, 2020). Continue omeprazole (Prilosec) 20mg PO QDay for esophageal varices (Kang et al., 2016).

**Follow-ups:** Patient to follow-up with primary care provider within the next week, for continued management of chronic conditions. Patient to follow-up with outpatient drug and alcohol rehabilitation program, with Indian Health Services by 09/24/2020.

**Disposition:** The patient is stable at this time, with resolving hyperammonemia and resolved confusion. She can physically function and ambulate independently without assistance. All imaging and lab results to date have been reviewed and addressed. Medication reconciliation was completed, and new scripts for rifaximin and lactulose were sent to the patient's local pharmacy. The patient is agreeable to discharging home with her sister and verbalizes the plan to follow-up outpatient with Indian Health Services for drug and alcohol rehabilitation.

#### **Geriatric/Psychosocial/Ethical Discharge Considerations**

Patients hospitalized for acute conditions during the COVID-19 pandemic have presented specific challenges, psychological and ethical, with the inability of family or friends to accompany patients and support them at a time when they are vulnerable. This concern is especially true for those patients with altered mental status, as surrogate decision-makers most often must be updated via phone calls, and may not fully understand a patient's status. Health providers must foster communication during this pandemic, as this can be critical to providing appropriate care.

The elderly population often presents with acute and chronic illnesses differently than younger populations. When evaluating aging patients with liver cirrhosis, it is important to understand the morphological and functional differences of the liver than that of younger patients, including decreased blood flow to the organ, reduction in hepatocytes, decreased

metabolic function, and the ability for detoxification (Kamimura et al., 2019). Management of liver cirrhosis, on top of age-related liver changes, should be considered cautiously when choosing any interventions for this population; however, removal of etiological factors remains the most crucial step in the progression of liver cirrhosis, especially alcohol consumption (Kamimura et al., 2019). Addressing the cause of liver cirrhosis is imperative, as complications of the disorder such as ascites, hepatic encephalopathy, and variceal bleeding can be much more severe in the elderly (Kamimura et al., 2019).