04/04/25 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Elena (@) Case Discussants: Rabih (@rabihmgeha) and Ibrahim (@IbrahimOmer_)

Scribing (Lera)

CC: ED received a call from the HD unit due to **AMS and somnolence** in a patient.

HPI: Presented to ED. On admission seems sleepy, opens eyes to non-painful stimuli, able to answer Qs without concern for dysarthria or aphasia. Disoriented to place and time, but slow response. Recalls name and date of birth, can't recall their age.

Regularly attends HD, has been on for 2h before presentation.

PMH:
CAD (T2DM, HTN, HLD) w/ stenting 1 week ago
CKD G4A3 (DM), Afib

Cirrhosis CHILD C, MELDS 23 2/2 MASLD Decompensation 2 y ago

LN mts urothelial carcinoma of bladder (ileal conduit 5 y ago)

Meds: **Warfarin, aspirin, clopidogrel**, atorvastatin Torasemide, Spironolactone, PPI, phosphate binder, rifaximin, lactulose Insulin glargine

Fam Hx: not relevant

Soc Hx: not relevant

Health-Related Behaviors: 70 pack/year smoking Hx

Allergies: not relevant

Vitals: T: afebrile **BP:** 105/65 **RR:** nl **HR**: 93 **Sat:** nl
Exam: Gen: somnolent
HEENT, Neck: unremarkable
CV, Pulm, Abd: unremarkable **Neuro:** strength, reflexes, sensation, CNs nl. No meningismus, **asterixis present.**

Notable Labs & Imaging:
Hematology:
WBC: 6 with nl diff **Hgb**: 9 (below bl of 10) **Plt**: 84 MCV: 93
CT head: no hemorrhage / ischemia, stenosis of left ACI.

Chemistry
Na: nl K: nl Cr: 1.7 (bl) BUN: nl Ca: nl Ph: nl Mg: nl Glu: nl
AST: nl ALT: nl **ALP and GGT**: slightly elevated Bili: nl
CK and LDH nl **Albumin:** 3.2 **Total protein**: 6
INR: 2.8 **PTT**: 40 **Fibrinogen:** 5.2 NH3: pending

EEG: abnormal basic activity, delta range and sometimes theta. Intermittent generalised triphasic waves c/w encephalopathy. **LP:** not done due to INR. **US abdomen:** small liver w/ nodularity, IVC and PV enlarged, no signs of thrombosis or ascites.

-> empiric Tx with ceftriaxone, amoxicillin, vancomycin, acyclovir, thiamine, lactulose and rifaximin. Transported to ICU. Melena noted, required 1 unit transfusion 2/2 Hgb drop to 7. Started on high dose PPI, PPSB, vit K.

NH3: 116 (high) **BCx:** negative **EGD:** esophageal varices, no active bleeding, no cherry spots / esophagitis or gastritis.

-> Encephalopathy resolved with treatment.

Dx: hepatic encephalopathy in context of warfarin-related UGIB (likely predisposition with ileal conduit) with non-decompensated cirrhosis.

Problem Representation: Patient with Hx of cirrhosis s/p ileal conduit on current TAPT transferred to ED after 2h HD session with acute onset AMS. Found to be hypotensive with asterixis, later developed UGIB. Ammonia levels were significantly elevated.

Teaching Points (Julia): Slow deterioration : **MIST**
rapid deterioration: Dissect a case: (rapid/reversible) causes vs. (severe)consequences of chief complaint
-> SCAN Sugar CT scan (hypertensive encephalopathy, intracranial hemorrhage, PRES) ABG Airway Naloxone

Asterixis: (measure CO2) in ESRD *PLUS* **Hypotension**
Encephalopathic despite dialysis: ? YES: conditions because of dialysis: dialysis disequilibrium syndrome NO: Toxic metabolic consequence, shock

Hyperacute encephalopathy : ESRD (dialysis) -> cirrhosis??
Decompensated cirrhosis: **liver**: infections w/ parenchymal dysfunction, increase in **portal pressure:(***reduced blood supply***)** a) portal resistance (thrombosis) or reduced flow in splanchnic arteries (vasodilation: Sepsis, bleeding, HRS)
AMS 2/2 cirrhosis ?? Diagnostic criteria : (1) Cirrhosis AND (2) decline in synthetic function (INR, albumin, Bili) AND (3) portal pressure increased (ascitis ?)
Alternative cause: **Ileum conduit** NAGMA, impaired ammonia clearance -> encephalopathy (MRI, Hgb)

melena -> upper GI bleed, endoscopy (-); bleeding not result of portal hypertension (no - warfarin related bleed (stent)
Ammoniagenesis: **cirrhosis type c** >>ALF (typ a), **type b** hepatic encephalopathy without cirrhosis, e.g. ileal conduit, Ammonium metabolism
Protein metabolism of blood high BUN/Cr ratio => Hyperammonemia (in vulnerable host)