05/09/22 Morning Report with @CPSolvers

***Case Presenter**: Mack Holmberg (@Mackuladensa) **Case Discussants**: Robin Stiller and Başak Çoruh (@basakcoruhUW)*

CC: worsening SOB & abdominal swelling

HPI: 39F w/ worsening SOB since last weeks while laying down, exerting, worsening distension of abdomen
No Nausea/Vomiting, no diarrhea
Lower Extremity swelling
No fever, chest pain or chills
She has night sweats
Recently started medication but can't remember what exactly
Unable to go to doctor for last few years

PMH:
H/o latent Tb,
Chronic untreated HepB,
Iron deficiency;
No PSH

Meds:
Tenofovir 5 weeks prior,
Advil

Fam Hx:
Mother died in her late 50s of cirrhosis (HepB), brother of liver cancer; chronic Hep B in family

Soc Hx:
From South East Asia, moved to Seattle
3 children in teenage years

Health-Related Behaviors:
No Tobacco or EtOH use

Allergies:
none

Vitals: **T**: afebrile **HR**: 118 **BP**:162/94 **RR**: **SpO_2**: 81% on 10L Nasal cannula

Exam:
Gen: distressed, upright in bed, unable to speak
HEENT: no injection, no scleral icterus
CV: tachycardic, regular rate, no murmur or gallop, JVP 9cm (not super hypervolemic)
Pulm: speaks in short sentences, very laboured, accessory muscle use, asymmetric chest expansion R side, dullness percussion R sided, decreased breath sounds R, L lung sounds clear, no apparent tracheal deviation
Abd: distended, positive fluid wave, diffusely mild tender
Neuro: wnl
Extremities/Skin: 3+ LE pitting edema

Notable Labs & Imaging:
Hematology:
WBC: 12 (bl:4-6) Hgb: 10.14 Plt: 100
Chemistry:
Na: 130 K:4.1 Cl:104 HCO3:26 BUN:19 Cr:0.36 glucose:108 Ca: wnl Phos: wnl AST:77 ALT:78 Alk-P:128 T. Bili:2.2 Albumin: 2.7 total protein 7.2 Anion-Gap 0 INR 1.5, BNP 128, Trop neg, Lactate 2.3
Imaging: CXR: complete opacification of R hemithorax
Cardiac US: normal EF, no pericardial effusion; Lung US: L wnl, R lung w/ fluid and flapping,
Abdominal US 2y before: coarse hepatic parenchyma;
Afebrile, BP drops to 110/73, HR 98, RR 22, Sat 95% w/ FiO2 80-90%,
Ascites: high SAAG, Cell count 200 (90% Neutrophils); **Pleural fluid**: Glucose 120, protein 1.5, Albumin <1, LDH 110; **Serum studies:** LDH 6.20, Serum Protein 7.2
Bacterial, fungal, AFB cultures negative, AFB PCR negative; **Alpha-Fetoprotein (AFP) 111**;
Thoracocentesis: 1.5 L fluid of R thorax, FiO2 25%, extubated few h later,
Not on OCPs; Vascular Imaging: no PVT or large clots, no apparent masses on US
Cytology of ascites+pleural fluid: no abnormal cells; Autoimmune panel wnl
FibroScan: coarse appearing liver parenchyma, clinical cirrhosis w/o definite FibroScan
No masses around ovaries or uterus; PAP smear no concern for malignancy; SPEP normal;

Final dx: Decompensated liver disease w/ ascites and hepatic hydrothorax due to chronic untreated HepB

Problem Representation: A 39yF w/ subacute worsening SOB and orthopnea, abdominal distension, night sweats, edema w/ a PMH of untreated HepB and latent Tb.

Teaching Points (Debora):

- **Red flag:** Palpitation, swelling, medications, supplement, time course: subacute (gets more intense) and hypoxemia (has to be the priority).
- **Differential diagnosis:** HR (orthopnea, swelling), vascular complication (edema) and thyroid (palpitation).
- **Liver** → Cirrhosis from a chronic untreated hepatitis B that can cause hepatocellular carcinoma (+ family history of liver cancer). Other causes that can affect the liver: autoimmune conditions, infections, medications.
- **Swelling** → Heart, kidneys and liver
- **Night sweats:** Malignancy, inflammatory and multisystemic problem.
- **Intubation** is indicated with this hypoxemia (SpO_2: 81% on 10L Nasal cannula) because the diagnosis can take time. The patient can present hypertension before the intubation caused from the respiratory distress and after the intubation hypotension.
- **CPAP:** Non-invasive respiratory device, continuous PEEP. **Helps w/ oxygenation**. **BIPAP:** 2 pressures; inspiratory and end-expiratory pressure. Easy work of breathing, ventilatory support; lower limit is the end-expiratory pressure. **Helps CO2 elimination!**
- **Complete opacification hemithorax → causes:** Mass pleural effusion, lung collapse and pneumonectomy.
- **FLUIDS: Ascites:** High SAAG: Portal HTN causing ascites very likely; Infections: Bacterial peritonitis. **Pleural fluid** → TRANSUDATE: From a translocation from the ascites. And look forward a spontaneous bacteremia.
- **TB causes:** Low SAAG; rather exudative effusion. And can affect the pericardium (e.g. pericarditis).
- **High AFP:** HepatoCellular Carcinoma (explains B-Symptoms); germ cell tumors; should be between 10-20 ng/ml.
- **Protein Gap (=> low albumin, but normal total protein):** HIV, Toxocariasis, Myeloma, Paraproteinemia.
- Side effects of Tenofovir: Renal failure (e.g. Fanconi-Syndrome).