



05/16/24 Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Sawsan (@) Case Discussants: Tansu (@drtansue) and Rabih (@rabihmgeha)

CC: 56 M Worsening SOB since the past week

HPI: Admitted the night before, doing well, was tired since the last couple of months; worsening SOB since 1 week; worse with exertion but present even at rest. No h/o orthopnea or PND, chest pain. ROS is positive for non productive cough.

PMH:
-Liver cirrhosis (4 months ago)
-Chronic hep C
-DM2
-HTN

Meds:
-Metformin
-Amlodipine

Fam Hx:
DM in father and liver disease in uncle

Soc Hx:
Truck driver; no recent travel or exposure to sick contacts
Patient lives in Kansas

Health-Related Behaviors:
No smoking
Stopped alcohol after cirrhosis Dx. (social drinker prior to this)

Allergies: -

Vitals: T: 37.2°C HR: 100/min BP: 132/77mm Hg RR: 24/min; SPO2: 88% on room air; 91% on 100%O2

Exam:

Gen: Very lethargic and jaundiced; AOX4

HEENT: Jaundiced

CV: Regular rhythm, no additional sounds; JVD was normal

Pulm: Decreased breath sounds BL (R>L); Patient gets uncomfortable in upright position; O2 sat dropped in upright position.

Abd: Mild distension, gynecomastia and loss of body hair

Neuro: -

Extremities/skin: -

Notable Labs & Imaging:

Hematology:

WBC: Hgb: 10.5 ; MCV - 88 Plt : 135

Chemistry:

Na :- K: Cl :- HCO3: - BUN: - Cr: - glucose: - Ca: - Mag:-

AST: 60 ALT: 44 Alk-P: 120 Albumin: 3 ; INR - 1.7; Total bilirubin - 6 mg/dl;

Direct - 0.6 mg/dl

Serum albumin - 3.0

Serum creatinine - 1.2 (no baseline available) ; BUN - 20

Respiratory panel negative for COVID and influenza

ABG: ph - 7.48 ; PAO2: 63mm Hg; PACO2: 31mm Hg; wide AA gradient

Imaging:

CXR: Increased vascular markings, moderate sized nodularity in right lower lobe

CT: No PE; Shunting with communications with the right lower lobe

Bubble study: Confirmed hepatopulmonary syndrome

Dx: Hepatopulmonary Syndrome

Problem Representation: 56 M with cirrhosis (s/p Hepatitis C) diagnosed 4 months back, presented with worsening shortness of breath since 1 week, worse on sitting upright and relieved on lying down.

Teaching Points (Parisa):

SOB → dyspnea pyramid → heart; lungs; blood → Organ approach plus Gas exchange approach(SOB w/ Gas exchange problem: hypoxemia; respiratory alkalosis vs SOB w/o gas exchange problems: anemia; ACS panic attacks)

Presence of non-productive-cough → lungs; atrial enlargement/Endemic mycoses → subacute to chronic SOB

Presence of fatigue → perfusional complaint

Intrathoracic vs extrathoracic issue in SOB → O2 sat and CO2

Cardiac causes SOB → congestive HF(orthopnea; PND) MCC angina from SOB; arrhythmia(palpitation) → PMH of metabolic syndrome

Thoracic complication of cirrhosis SOB is rare as usually patient is too confused and hemodynamically unstable → 1)ascites(compressive affect); 2)pulmonary vascular(hepatopulmonary syndrome, HPS); 3)pleural effusion;4)portopulmonary hypertension; 5)anemia

When oxygen saturation fails to improve with supplemental oxygen → alveolar vascular disconnect / shunt → Pao2 confirmation

Pulse oximetry may not always provide the most reliable measurements → errors could happen due to skin tone or poison(methemoglobinemia)

Platypnea/Orthodeoxia → O2 saturation dropped when patient is in upright position → hallmark of HPS; pooling of blood in dilated pulmonary vessels HPS is accompanied with hypertension or elevated BP.

Shunts → 1) heart PFO; 2) lung (AVM CT chest w/ contrast; hepatopulmonary) Next steps → assessment for common things in acute decompensated cirrhosis; portopulmonary HTN (Dx with TTE); hepatopulmonary syndrome (not captured by CT, bubble contrast echocardiography) → cardiac shunt bubbles appear fast; lung shunts take longer to be appeared.

Cirrhosis + dyspnea → external causes(ascites); vascular; parenchyma(PNA)

V/Q scan could help us to quantify shunt.

Management HPS → liver transplantation