02/23/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter:Hugh Larkin (@) Case Discussants: Rabih Geha(@rabihmgeha) and Reza Manesh(@DxRxEdu)

CC: 22 year old male came to the ED with a fever and chest pain.

HPI: For the past week, has had a fever, myalgia and a sore throat, he has been self treating with paracetamol for a week.

Has been feeling unwell for the past week. This morning the chest pain which was mild worsened. The pain is in the left lateral chest wall, described as sharp pain. Initially, it was intermittent, but in the afternoon it became constant. 5/10, worsened by exertion and by deep breaths. No radiation to the back, neck or arms. The last few months, denies weight loss, night sweats.

PMH: None

Meds: None

Fam Hx: None

Soc Hx: lives with a roommate in an apartment. grew up locally (United Kingdom), works as a bartenders. Smokes 5-10 cigarettes a day, smokes 1-5 cannabis joints/day. Hetereosexual, and hasn't been active for a year, no travel history, hasn't experienced homelessness.

Health-Related Behaviors:

Allergies: None

Vitals: T: 38.5 HR: 120 **BP:** 100/55 **RR:** 24 **SpO2** 95% RA

Exam:

Gen: sweating, tachypneic, looks unwell

HEENT: no tonsil swelling, no palpable lymphs

CV: normal

Pulm: Good entry in both lung fields, no crackles, or wheezing

Abd: Soft and nontender

Neuro: drowsy and disoriented, can follow basic commands, can open eyes when spoken to, can answer questions. Can't recall how he arrived to hospital or what day it is. No rash, can move all limbs.

Extremities/skin: Hands and feet (left 5th proximal mcp) is slightly red and swollen. Left foot (1st mcp) is tender on palpation.

Notable Labs & Imaging:

Hematology:

WBC: 18 Hgb: 116 g/L (normal) Plt: 7 (normal range: 140-400) neutrophils 17, lymphocytes 0.7, CLP 240

Chemistry:

Na: 122 K: 4.5 Cl: HCO3: BUN: Cr: 1.65 glucose: Ca: Mag:

AST: wnl ALT: wnl Alk-P: wnl Albumin: INR 1.3 PTT: 56.4 Bili:nl urea 15.9 PTT ratio 1.7

Imaging:

EKG:

CT pulm: Multiple nodules in both lungs, located centrally and peripherally, small loculated pleural effusions seen

CXR: Patchy opacities in both lungs, and small bilateral effusions

Blood culture: aerobics - gram positive chains . Anaerobic - gram negative rods and cocci, chains (fusobacterium)

Ultrasound of foot and hand: consistent with septic arthritis, not enough fluid in joints to aspirate.

ANA negative, ANCA negative, C3 low, Anti cardiolipin (-), lupus anticoagulant- positive.

ADAMS TS13 - not consistent with TTP, HIV negative, Hep B negative.

Transthoracic echo: no vegetations, no PFO

CT neck: filling defect in left jugular vein

On admission he was treated with IV fluids, antibiotics, and a single pool of platelets. After CT pulm and gram stain, was given anaerobic cover. High flow oxygen in the ICU, day 7 got a repeat CT of abdomen, revealed bigger pleural effusion, high flow oxygen for a week.

Dx: **Lemierre syndrome with septic emboli to the lungs, and septic arthritis in the hand and foot.**

Problem Representation: 22 y/o M w/ no PMH p/w fever, left-sided pleuritic chest pain, sore throat for 1 week, found to have polyarticular inflammation and was disoriented on physical exam

Teaching Points (Kuchal):

1.Fever can be translated to Inflammation: sore throat, and myalgias, chest pain points towards: inflammatory thoracic condition: ?lung, ?heart (valve, myocardium, peri), ?other mediastinal structures.

2.sore throat: (Indirect): ? is it a systemic condition, spreading to the chest, or is it part of the treatment of the underlying condition causing the sore throat. (Direct) Spread: through airway, through vasculature, or retropharyngeal spread.

3.With Chest pain think of Ps: PE, pericarditis, pneumonia, pleuritis. - CT chest and other tests like EKG, ECHO, Troponin, can help to further differentiate,

4. Cannabis: increased risk of fungal, heavy metal poisoning (Cadmium)

5. Negative exam, cannot r/o Pulmonary source of infection, or Endocarditis (consider BC to r/o endocarditis); given he age of the patient, other systems to be added to the Problem Representation- Joints (1 st MCP pointing towards Podagra) , CNS: lack of meningismus doesn't r/o meningitis, encephalitis. If the patients was older: points more towards urinary system.

6. Blood vessel connects systemic infection, brain, joints etc: usually Gram Neg. in Immunocompetent: strep Pneumonia, N.meningitidis. ? Pharyngeal swabs for Dx. Personal protective measure for caretakers, LP for the patient. Focal pain on L side: ? endovascular (bacterium growing in the vessel, esp Pulmonary circulation), than endocarditis (Pain is more central location).- CT head, Neck with contrast (r/o JV source of infection), Chest. Antibiotic to consider: Ampicillin + Sulbactam(to cover Fusobacteria, and Oral strep) + Flagly.

7. Labs: Acute inflam+ Neutrophilic - points towards: bacterial > Fungi. Thrombocytopenia: ? Non specific due to Sepsis or due to Pyogenic bacteria. (1. 70% of pts Lemierre's; 2. TSS). Incase of Polymicrobial Lemierre: more common Group C/d Strep +ve than Group A strep.

8. PULM NODULE: DISSEMINATED FUNGAL, SEPTIC EMBOLI,(>R lung) DISSEMINATED TB.

9. Positive BC: (is it the pathogen, or a contaminant); Strep, Staph, Entero, gram neg: Fuso?; make sure the antibiotic coverage is appropriate.

10: Compliments are usually decreased in endocarditis, Endovascular infection. One positive Lupus is not diagnostic.