Citywide Conference

September 24, 2019

Temple University Hospital

Case # 1

Presented by Eric Holaday, PGY 5

History of Present Illness

86 year old man with history of:

- Coronary artery disease with stents
- Hypertension
- Hyperlipidemia
- Atrial fibrillation (off anticoagulants)
- Basal cell carcinoma
- Prostate cancer (prostatectomy 15 years ago)

HPI

Worsening dyspnea for 18 months

- Progressive activity intolerance
  - Worse over past 3 weeks
  - Orthopnea
- Chest pain
  - One day duration
  - Onset at rest
  - Non-radiating
- Lower extremity edema
  - New onset
  - Several days duration

HPI

Worsening dyspnea for 18 months

- Dysphagia
  - Several weeks duration
  - Greatest with solids
  - Food “gets stuck” and “takes a while to go down”
  - Improved on PPI
- Denies:
  - Odynophagia, nausea, vomiting, regurgitation
  - Cough, fevers, chills, sick contacts
  - Abdominal pain or dysuria
  - Weight loss

HPI

Recent hospitalizations:

- Fall at home
- Fever to 104 degrees Fahrenheit
- Diagnosis of pneumonia- discharged on Levofloxacin

Home medications:

- Levofloxacin 750 mg
- Omeprazole 40 mg
- Pravastatin 40 mg
- Atenolol 50 mg daily
- ASA 81 mg

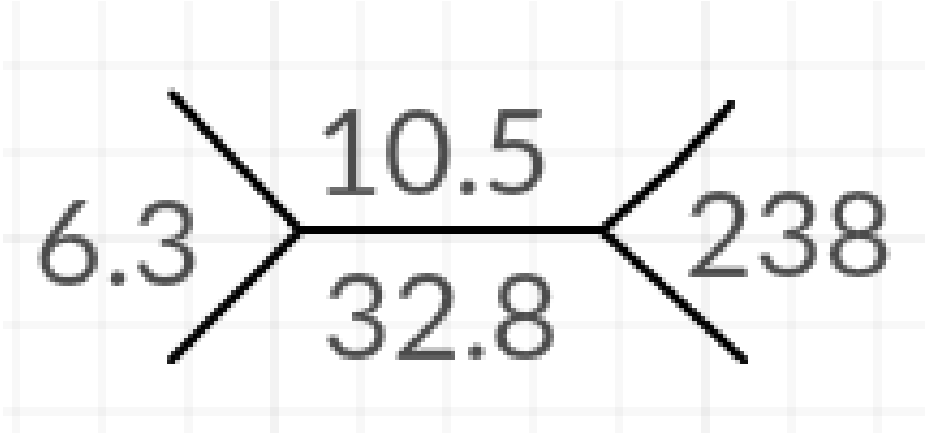
Physical Exam:

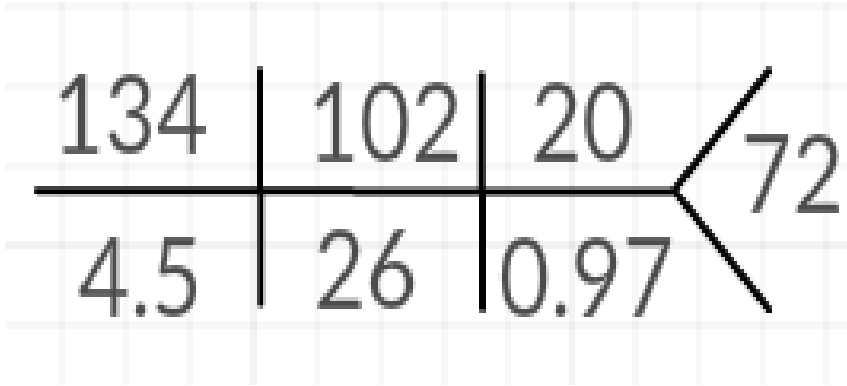
- Temp 97.2 °F (36.2 °C) | Pulse 83 | BP 120/68 | Resp 17 | SpO2 97 %

- Constitutional: Well-developed, well-nourished, and in no distress.
- Cardiovascular: Normal rate and regular rhythm. Exam reveals no gallop and no friction rub. No murmur heard. **Distant heart sounds.**
- Pulmonary/Chest: **Diminished breath sounds at LLL**
- Abdominal: Soft. There is no tenderness. Musculoskeletal: He exhibits edema. **R > LLE edema (2-3+ to knee) Erythematous right shin**

12/6/18: Hospital Day 1

Labs



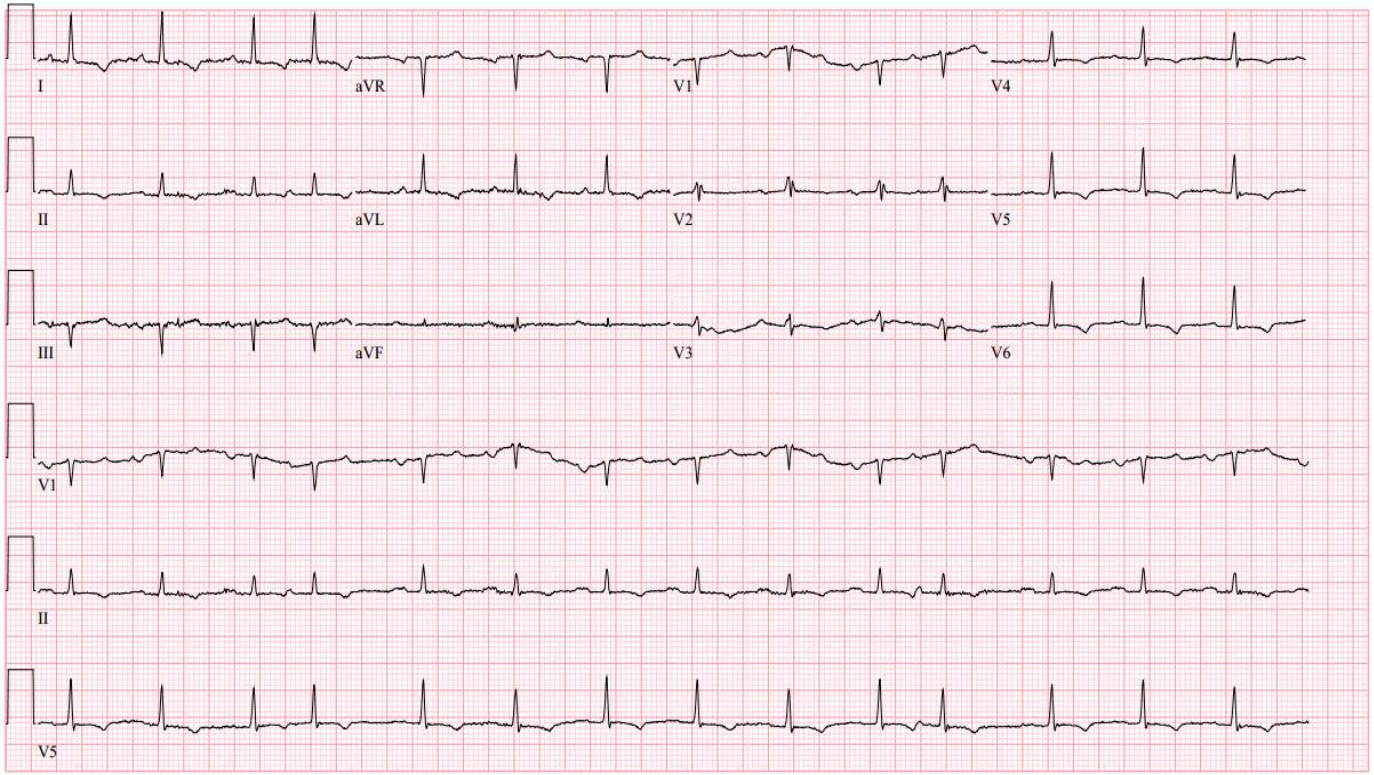


Neutrophils 82.9 %, Lymphocytes 6.5 %, Mono 9.6 %, Eos 0.5 %

- Albumin 3.0
- Total Protein 7.3
- CTNI <0.15
- D Dimer 1947

Imaging, etc.

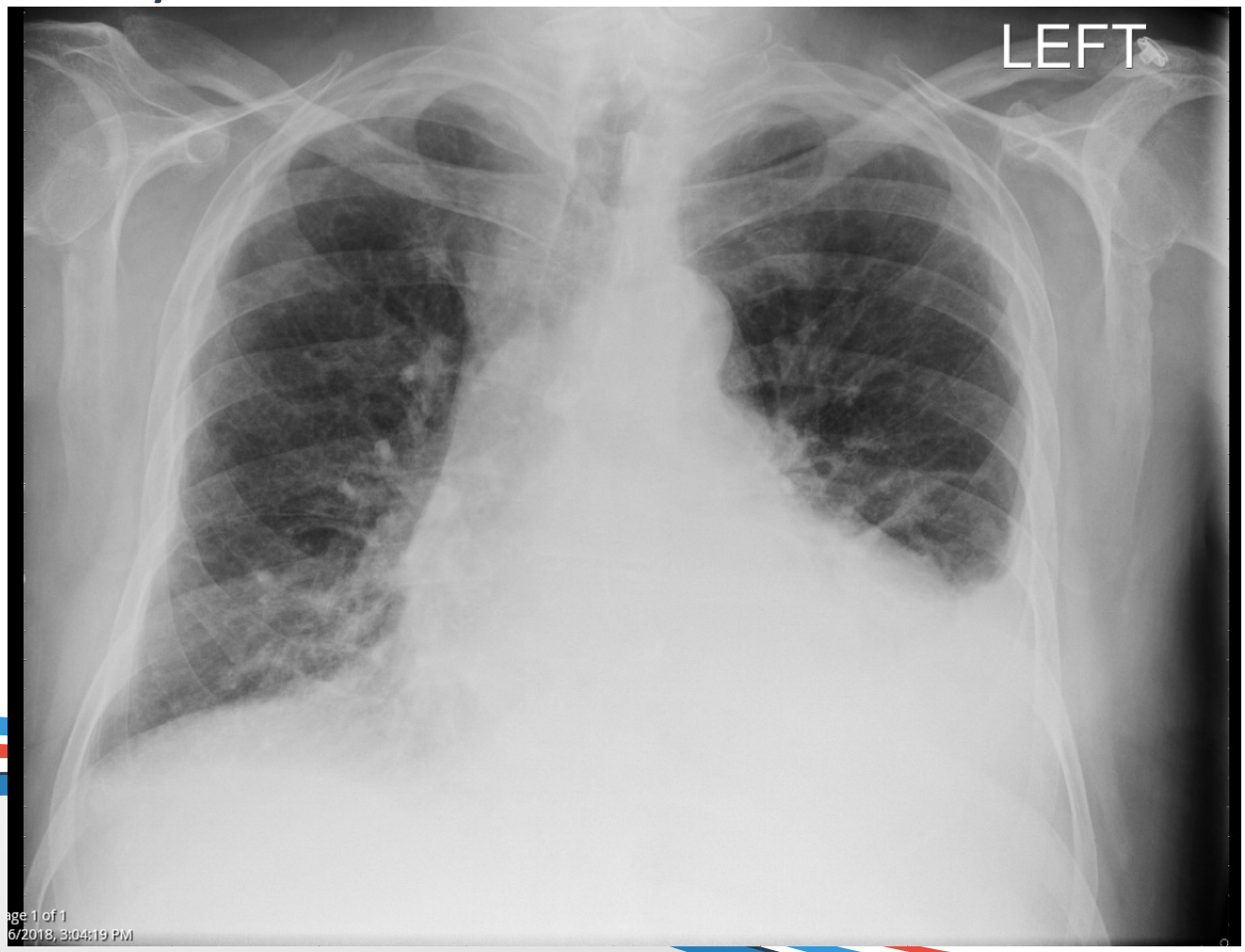
EKG:



12/6/18: Hospital Day 1

Imaging, etc.

Chest x-ray:

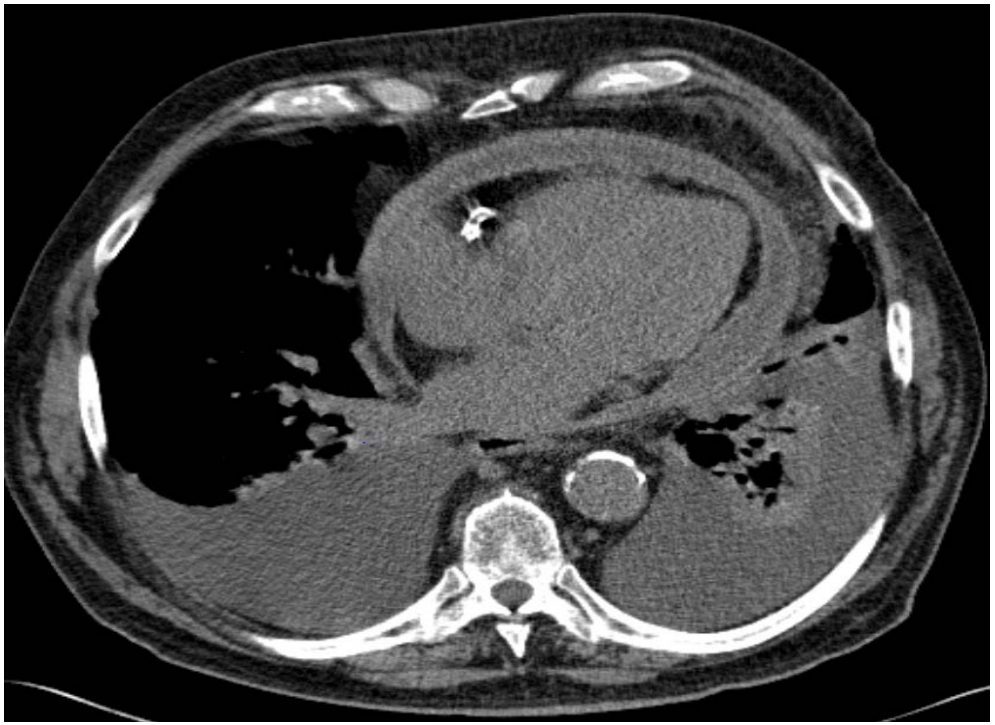


Further studies:

Chest CT with Contrast (Angio):

IMPRESSION:

1. No PE
2. Bilateral pleural effusions, left larger than right which is slightly loculated along the superior segment.
3. Moderate to large pericardial effusion.
4. Coronary artery vascular calcifications.
5. Minimal chest lymphadenopathy which may be related to heart failure or reactive in etiology.



Further studies:

Transthoracic Echocardiogram:

Summary
Technically difficult study:

Left ventricle: Ejection fraction was estimated to be 50 %. This study was inadequate for the evaluation of regional wall motion.

Ventricular septum: There was moderate excessive respiratory change.

Pericardium: A moderate, free-flowing pericardial effusion was identified circumferential to the heart. There was no evidence of hemodynamic compromise.

Hospital Course

IR Thoracentesis (Left)

Findings: Moderate left pleural effusion. 1.5 L of clear yellow pleural fluid aspirated:

Protein (Pleural fluid):	3.0
LDH (Pleural fluid):	86
Light's criteria:	Transudative

Hospital Course

IR Thoracentesis (Left)

Cell Count (Pleural fluid):

Fluid Appearance:	Clear/Colorless
White Blood Cells:	430
Red Blood Cells:	450
Neutrophils:	42%
Lymphocytes:	50%
Monocyte:	8%

Hospital Course

IR Thoracentesis (Left)

Gram Stain:	Many WBC, No Organisms Seen
Body Fluid Culture, Sterile:	No Growth after 5 days
Cytology:	Negative for malignancy. Reactive mesothelial cells and mixed inflammatory cells.

12/7/18: Hospital Day 2

Hospital Course: 12/6-12/20

Events:

- CT abdomen and pelvis 12/9
- Modified barium swallow 12/11
- Repeat L sided thoracentesis on 12/13
- EBUS 12/19
- Dyspnea improved with thoracenteses and diuresis
- Pulmonary and GI outpatient follow up

It's déjà vu all over again…

Recurrent symptoms:

- Seen 1 week after discharge (12/28) in pulmonary clinic
- Repeat L sided thoracentesis performed (#3)

Admission 1/9:

- Planned right heart catheterization
- Pericardiocentesis performed
- L thoracentesis (#4)

Pericardial Fluid

Findings: 120 cc of straw colored fluid aspirated, post drainage echo showed a smaller, mostly posterior pericardial effusion. The effusion appears to be loculated and the posterior collection could not be entered.

Albumin	2.2
Protein	5.5
LDH	4,542
Glucose	17

Pericardial Fluid

Fluid Appearance:	Cloudy/Yellow
White Blood Cells:	2,975
Red Blood Cells:	250
Neutrophils:	84%
Lymphocytes:	8%
Monocyte:	4%
Macrophages	4%
Adenosine Deaminase	125.5
Gram Stain:	Moderate WBC, No Organisms
AFB Smear:	No acid fast bacilli seen
Body Fluid Culture:	No Growth after 5 days

Hospital Course 1/9-1/23

ID Consulted

- Social History:
  - Born in Philadelphia
  - Worked as a quarryman in a shipyard and in construction
  - Extensive travel history
  - Parents from Newfoundland

- Recommendations:
  - Coxsackie B antibody panel, HIV screening
  - PCR for CMV, HSV, enterovirus, and MTB
  - Pericardial biopsy

1/10/19: Hospital Day 2

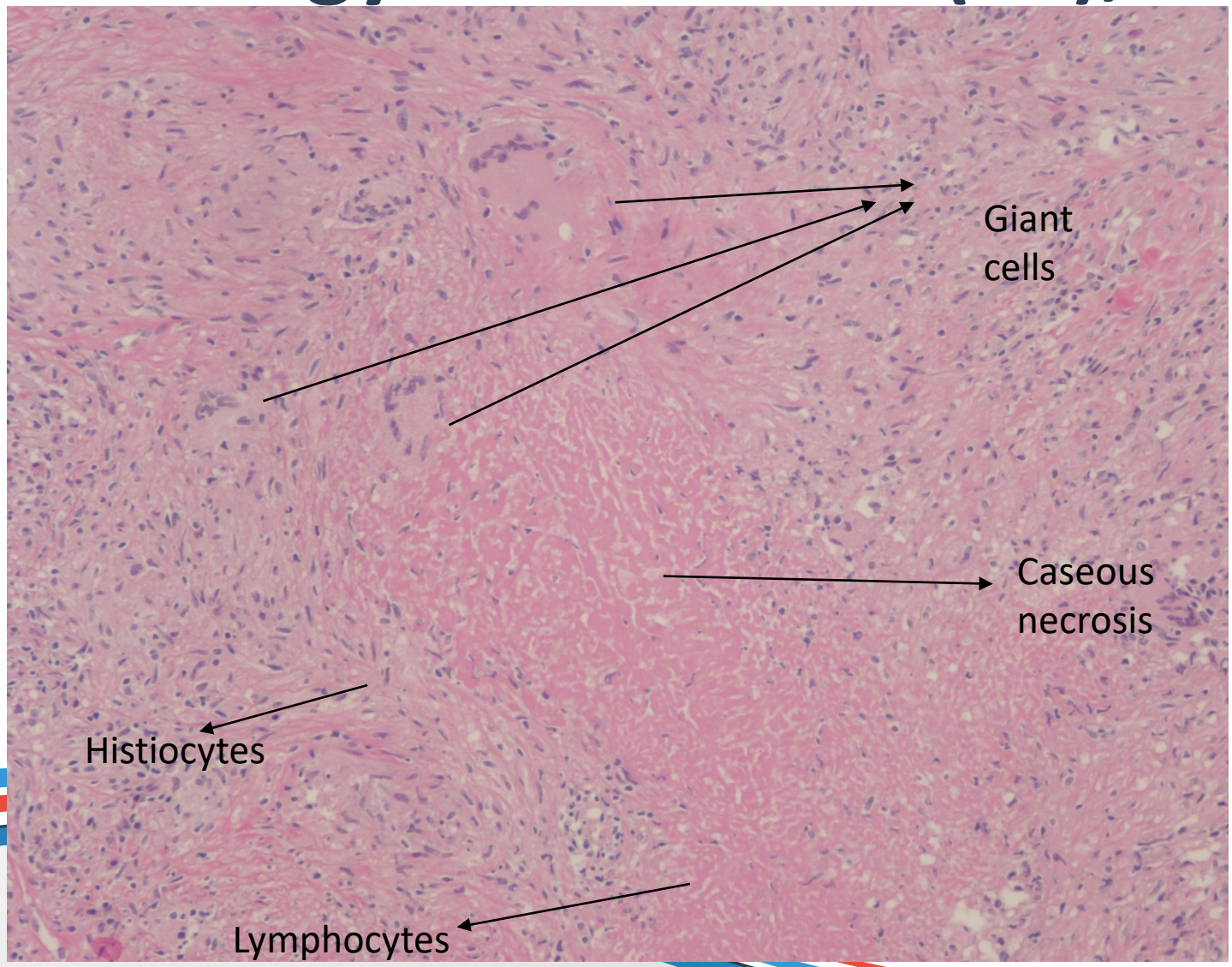
Hospital Course 1/9-1/23

Events:

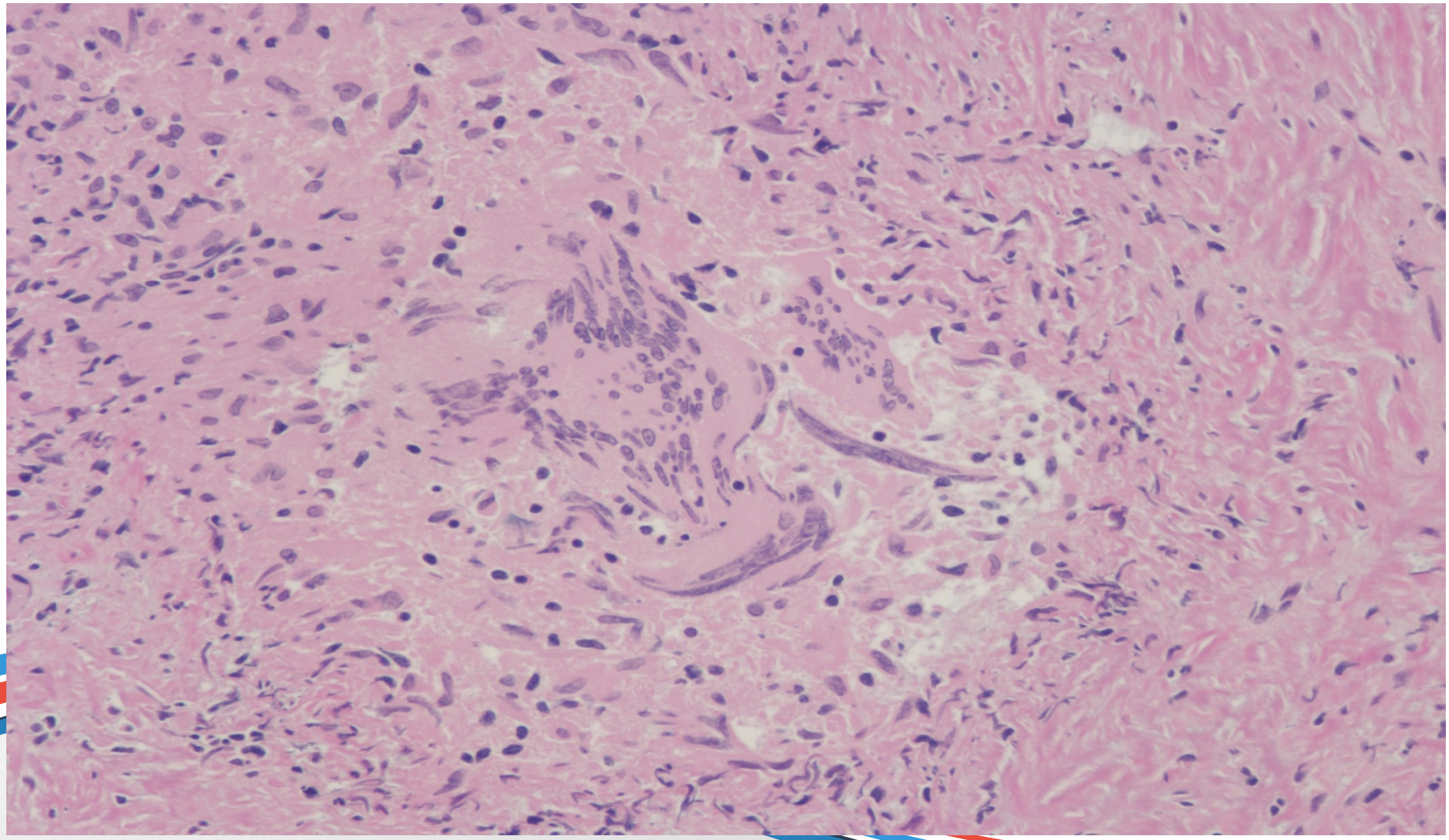
- Patient had recurrent dyspnea, surgery consulted for pericardial window, thoracentesis performed on 1/15 (#5) to optimize for surgery
- Pericardial window and biopsy performed on 1/16, heart noted to be “covered with fibrinous material”

1/16: Hospital Day 8

Pathology: Granuloma (#2), 10x



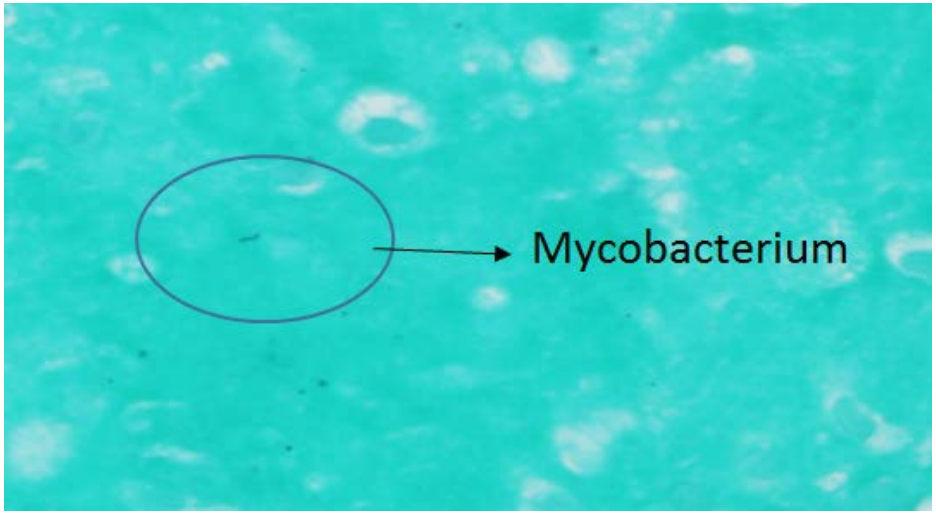
Pathology: Granuloma (#1), 20x



Discharge:

ID recommendations:

- Patient discharged on 1/23 (Hospital Day 15)
- ID recs: 6 months treatment
    - Oral prednisone taper
    - RIPE with pyridoxine
- Final AFB cultures from 1/10 resulted with AFB growth on 1/28



Takeaways

- Get to the heart of the issue
- Social history is important
- History is important!

Tuberculosis, epidemiology

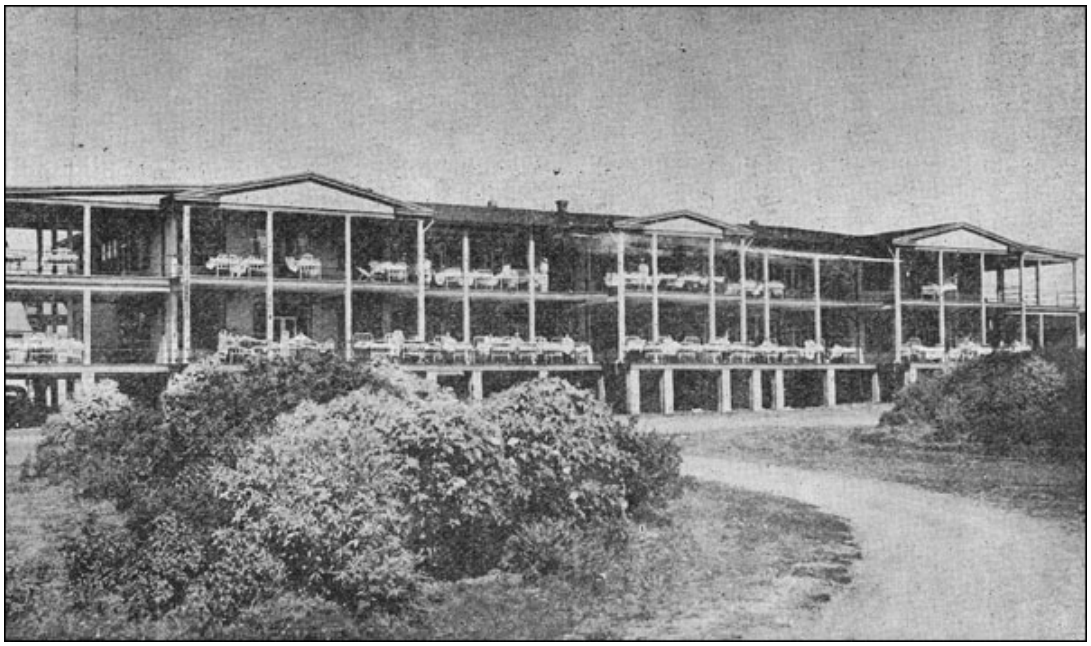
1. https://www.thelabradorsite.com/newfoundland-lab-mix/
2. https://www.heritage.nf.ca/articles/society/tuberculosis-newfoundland.php

Treatment of Tuberculosis

- Isolated in 1882
- Sanatoria (Late 1800s)- “rest cure”
- Surgical treatment (1930-50s):
  - Plombage
  - Thoracoplasty
  - Phrenic crush
  - Lobectomy/Pneumoectomy
- Medical treatment (1940s)
  - BCG vaccine
  - Anti-TB drugs

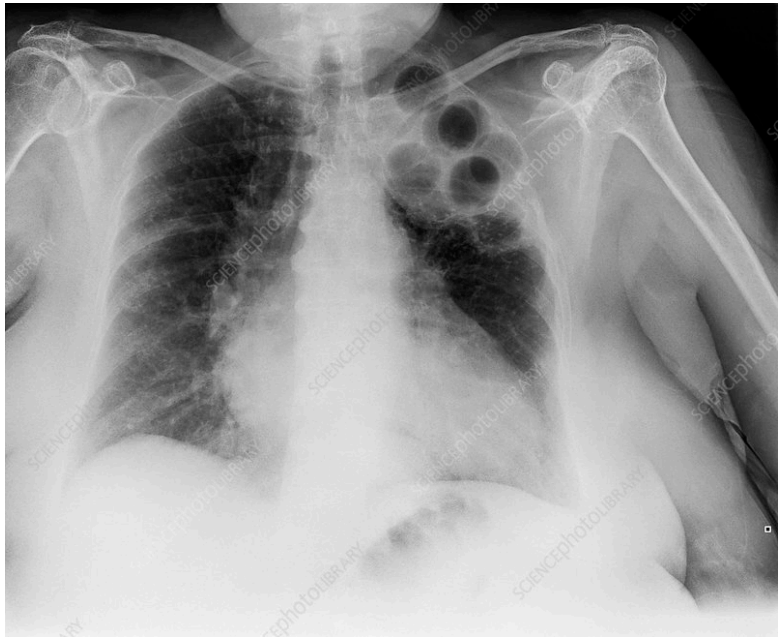
https://www.heritage.nf.ca/articles/society/tuberculosis-newfoundland.php

Treatment of Tuberculosis



St. John's Sanatorium, South Wing

From *San Beams*, Vol. 3, 1945, p. 2. Photo courtesy of Newfoundland and Labrador Collection, Provincial Resource Library, A.C. Hunter Library, St. John's, NL.



https://www.sciencephoto.com/media/916221/view/plombage-tuberculosis-treatment-x-ray

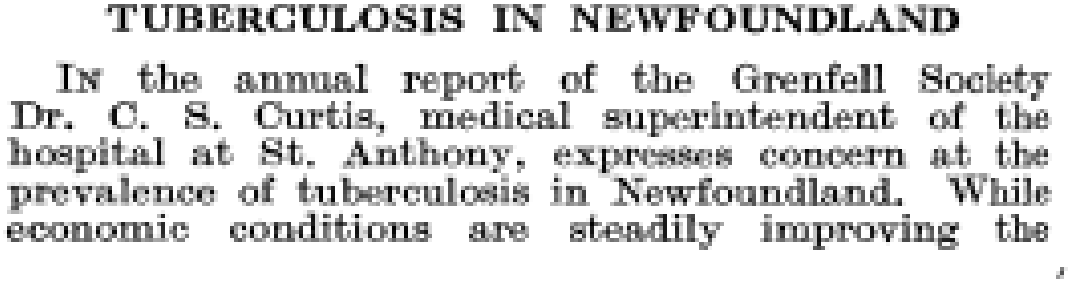
https://www.heritage.nf.ca/articles/society/tuberculosis-newfoundland.php

Tuberculosis in Newfoundland

- TB death rate of 348 per 100,000 (Newfoundland and Labrador 1905-1909) (1)
- TB death rate of 152 per 100,000 people (Britain 1909) (1)
- TB was leading cause of death until 1947 (2)

- Contributing factors :
  - Scattered population (2)
  - Long, cold winters(1)
  - Chewing tobacco(1)
  - Malnutrition(1)
  - Great depression

- The Lancet (1939):



TUBERCULOSIS IN NEWFOUNDLAND

In the annual report of the Grenfell Society Dr. C. S. Curtis, medical superintendent of the hospital at St. Anthony, expresses concern at the prevalence of tuberculosis in Newfoundland. While economic conditions are steadily improving the

1. https://www.heritage.nf.ca/articles/society/tuberculosis-newfoundland.php
2. McPhal, Jennifer; Zymantas, Jennifer (2009). "The Ship of Health: The Story of the M.V. Christmas Seal" University of Calgary. Retrieved 21 September 2012.
3. "Tuberculosis in Newfoundland". The Lancet Volume 233, Issue 6022, 28 January 1939, Pages 246-247

Intervention

Christmas Seals Advertisement, 1946
From *The Happy Warrior*, Jan. 1947, p. 27.

M.V. Christmas Seal[(2)]

1. https://www.heritage.nf.ca/articles/society/fighting-tuberculosis.php
2. McPhal, Jennifer; Zymantas, Jennifer (2009). "The Ship of Health: The Story of the M.V. Christmas Seal" University of Calgary. Retrieved 21 September 2012.

“Ship of Health”

A Doctor onboard the MV Christmas Seal, interprets an X-ray in the summer of 1954 [(2)] (Lung Association of Newfoundland and Labrador)

Wesleyville residents on board the Christmas Seal wait their turn for x-rays. Newfoundland.
Photographer: Lund, Chris (1923 - 1983)[3]

1. https://www.heritage.nf.ca/articles/society/fighting-tuberculosis.php
2. McPhal, Jennifer; Zymantas, Jennifer (2009). "The Ship of Health: The Story of the M.V. Christmas Seal" University of Calgary. Retrieved 21 September 2012.
3. http://www.bac-lac.gc.ca/eng/portrait-portal/pages/ARProfile.aspx?ArchivalRecordKey=4237443&EnsembleCode=1

Suffering from Success

Susan Kelloway being x-rayed by technician Hubert Stokes aboard the W.V. Christmas Seal. Newfoundland. Photographer: Lund, Chris (1923 - 1983)[2]

This is the M.V. Christmas Seal
In Hermitage today
So come on board just as you are
For your free chest X-ray
The nurses are here to give BCG
We'll test your water too
And if you have a handicap
There's someone to talk with you.
In nineteen hundred seventy
She took her last X-ray
For now the roads and causeways
Were linking up the bays
And Tuberculosis was vanquished
A death from it was rare
The dollars raised by Christmas Seals
Had more than done their share. [1]

1. McPhal, Jennifer; Zymantas, Jennifer (2009). "The Ship of Health: The Story of the M.V. Christmas Seal" University of Calgary. Retrieved 21 September 2012.
2. http://www.bac-lac.gc.ca/eng/portrait-portal/pages/ARProfile.aspx?ArchivalRecordKey=4237443&EnsembleCode=1

The End?

CCDR Canada Communicable Disease Report

Report for 2017:

- 1,796 cases of active TB
- Incidence 4.9/100,000
  - Males >75: 13.8/100,000
  - Indigenous people: 21.5/100,000
  - Inuit: 205.8/100,000

Nfld. & Labrador

TB outbreak in Nain soars to 50 cases

50 people being treated with either suspected, confirmed, or latent cases

CBC News · Posted: Jun 13, 2018 11:18 AM NT | Last Updated: June 13, 2018

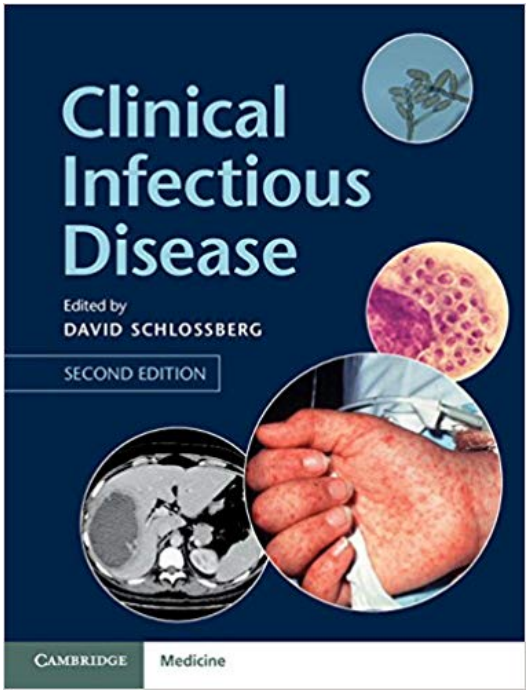
Tuberculosis is caused by a bacterium which most commonly attacks the lungs, and is treated with a course of antibiotics.

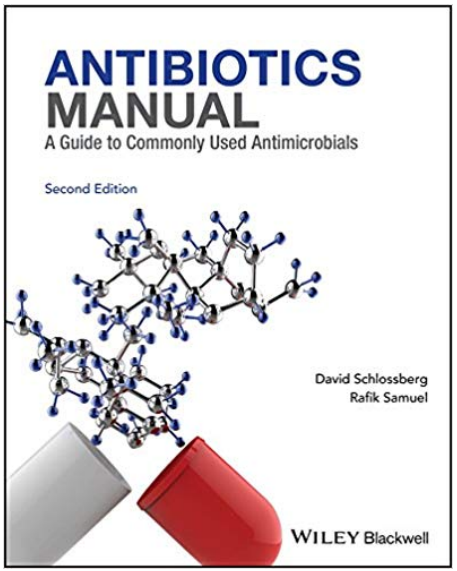
Fifty people in Nain are now being treated for tuberculosis, up from six suspected cases in April — although health officials say the spread of the disease is showing signs of slowing.

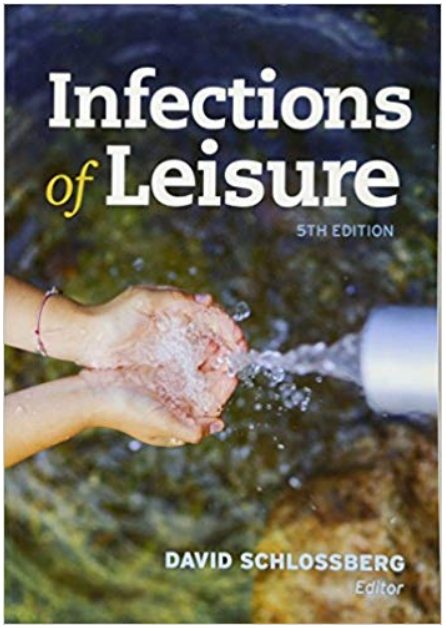
There are 23 people with either confirmed or suspected active cases, as well as 27 people with latent TB, meaning they don't have any symptoms but still require medication.

https://www.cbc.ca/news/canada/newfoundland-labrador/nain-tb-outbreak-grows-1.4641833

In memoriam:


Clinical Infectious Disease
Edited by
DAVID SCHLOSSBERG
SECOND EDITION
CAMBRIDGE
Medicine


ANTIBIOTICS MANUAL
A Guide to Commonly Used Antimicrobials
Second Edition
David Schlossberg
Rafik Samuel
WILEY Blackwell


Infections of Leisure
5TH EDITION
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Editor