A Case of Disseminated Tuberculosis

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HISTORY

- 64 year old man, Canadian born (New Brunswick)
- Was working as a nurse
- 40 pack year smoking history (quit 15 years ago)
- Presenting symptoms:
  - One month history of
    - Abdominal distention
    - Abdominal pain
    - Constipation
  - Normal appetite, no weight loss.
  - No fever.
  - No respiratory symptoms.

History

- Comorbid illnesses:
  - Epilepsy (1976), on *carbamazepine* and *lamotrigine*
  - Chronic hyponatremia (SIADA secondary to carbamazepine)
  - Chronic anemia (colonoscopy→ no malignancy).
- No previous history of **active** tuberculosis or contact with patients known with active tuberculosis.

Physical Exam

- Patient was comfortable, not ill looking and not distressed.
- Vitals were normal, O2 sat 99% R/A.
- No cervical, axillary or inguinal L N enlargement.
- Chest exam was unremarkable except for occasional expiratory wheeze.
- Abdomen
  - Distended, ascites, no organomegaly.
- No lower limb edema.

MISSED RELEVANT HISTORY

- Was working as a nurse in a homeless shelter.
- Previously diagnosed to have latent tuberculosis (positive TST, 8years ago) and was not treated.

BASIC LABORATORY TESTS

Electrolytes/ renal profile

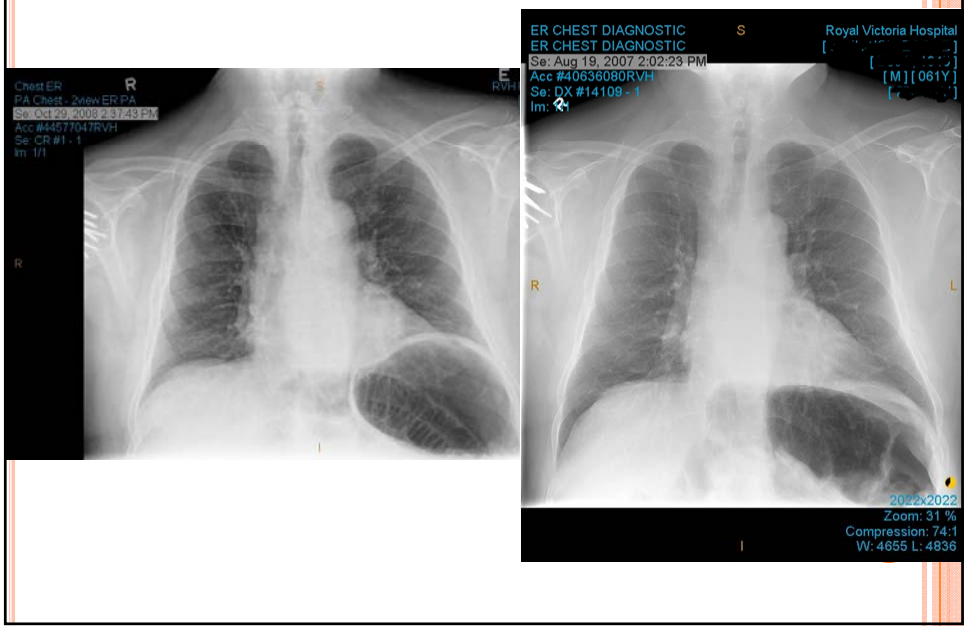
Sodium	123	mmol/L
Potassium	4.0	mmol/L
Chloride	86	mmol/L
Bicarbonate Level	27	mmol/L
Anion Gap	10	mmol/L
Glucose Random	5.9	mmol/L
Urea	2.2	mmol/L
Creatinine	48	umol/L

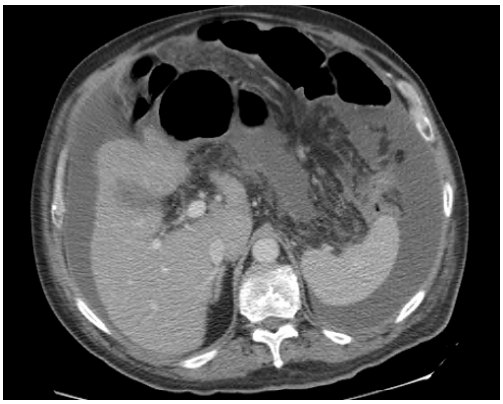
Liver profile

Bilirubin Total	12.0	umol/L
Alanine Aminotransferase	18	U/L
Alkaline Phosphatase	107	U/L

Complete blood count

White Blood Cell	4.35	10^9/L
Red Blood Cell	4.21	10^12/L
Hemoglobin	131	g/L
Hematocrit	0.370	L/L
Mean Cell Volume	88.3	fL
Mean Cell Hemoglobin	31.2	pg/cell
Mean Cell Hemoglobin Conce...	354	g/L
Red Cell Diameter Width	14.4	cV
Platelet	308	10^9/L

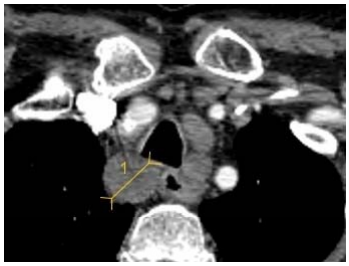


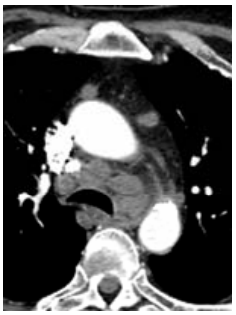


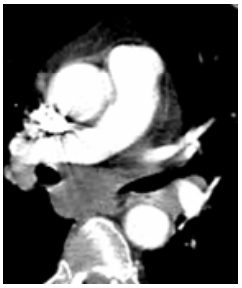
Ascetic Fluid

- Lymphocytosis
- -ve for malignancy
- -ve bacterial culture
- -ve for fungi
- -ve smear for TB, pending culture.

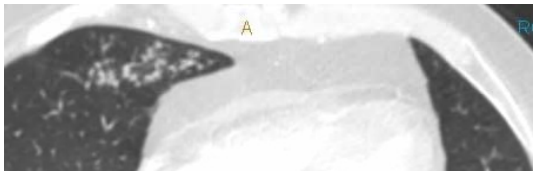
IMPRESSION:
Findings are suggestive of a peritoneal carcinomatosis with ascites and partial obstruction. No site of focal decrease in caliber of bowel seen. The ascites can be tapped to confirm diagnosis. Patient has some abnormal lymph nodes, as described in the text in the base of the







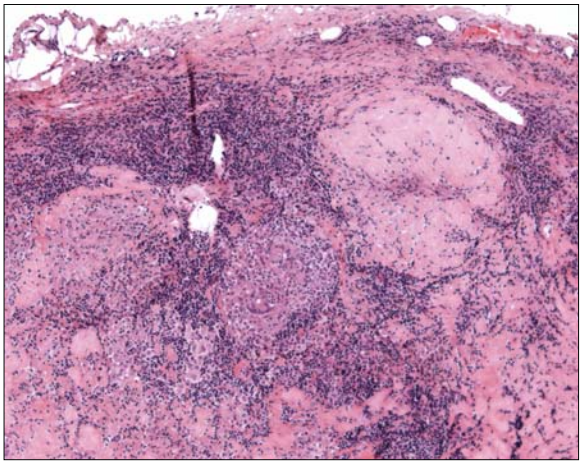
non-specific tree-in-bud appearance



IMPRESSION:
Extensive mediastinal adenopathy, most of which is surrounding the trachea. The nodes anterior to the aorta arch are borderline in size. The appearance is suggestive of sarcoidosis, but lymphoma is another possibility. This case was discussed with Dr. Kosiuk.

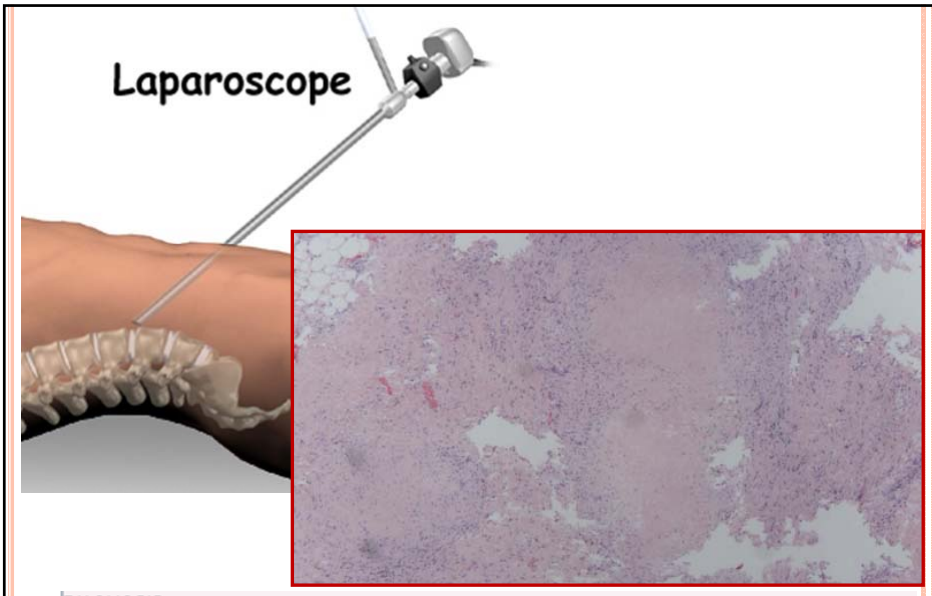
What to do?

MEDIASTINOSCOPY



DIAGNOSIS
A, B, C. 2L LYMPH NODE, 4R LYMPH NODE, #7 LYMPH NODE, BIOPSIES
- MARKED FIBROSIS AND FEW FOCI OF NON-NECROTIZING GRANULOMATOUS INFLAMMATION, MOST CONSISTENT WITH SARCOIDOSIS.
- SPECIAL STAINS FOR ACID FAST BACILLI AND FUNGI ARE NEGATIVE.
- THERE IS NO EVIDENCE OF LYMPHOMA OR OF OTHER MALIGNANCY.

WHAT TO DO?

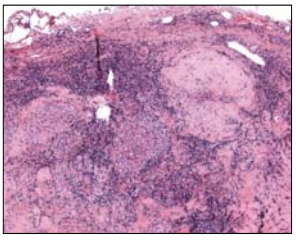


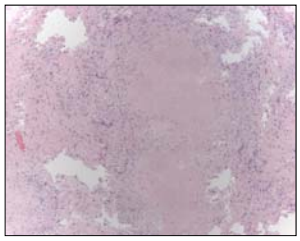
DIAGNOSIS
A AND B. PERITONEAL NODULES:
- FIBROFATTY SOFT TISSUE WITH NECROTIZING GRANULOMATOUS INFLAMMATION, SEE NOTE.
- SPECIAL STAINS FOR ACID FAST BACILLI AND FUNGI ARE NEGATIVE.

CULTURES

Top of List

Nov 28, 2008 17:29		Ordered	MICR	TB culture	Sputum - Lung	
Dec 8, 2008 08:15	Dec 9, 2008 15:46	Preliminary	MICR	TB culture	Sputum Induced - Lung	
Dec 4, 2008 07:15	Dec 9, 2008 15:08	Final	MICR	Blood culture(aero+anaerobic bt)	Blood - Not Specified	
Dec 4, 2008 07:15	Dec 9, 2008 15:07	Final	MICR	Blood culture(aerobic btl only)	Blood - Not Specified	
Dec 7, 2008 09:03	Dec 9, 2008 08:13	Preliminary	MICR	Catheter bacterial culture	Catheter Tip - Catheter Site	
Nov 21, 2008 00:01	Dec 8, 2008 15:11	Preliminary	MICR	TB culture	Tissue - Peritoneum	POS
Nov 21, 2008 00:01	Dec 8, 2008 15:11	Preliminary	MICR	TB culture	Tissue - Free text	POS
Nov 11, 2008 16:00	Dec 8, 2008 15:11	Preliminary	MICR	TB culture	Lymph Node - Mediastinum	POS





Disseminated Tuberculosis

What next?

Resulted	VIRO	HIV Ab/Ag Screen		
Resulted	VIRO	HIV Ab/Ag Interp	Negative	
VIRO	HIV Viral Load			
VIRO	HIV Viral Load		<50	copy/mL
VIRO	HIV Load log		<1.7	

- Patient was started on:
  - INH 300 mg/day
  - RIF 600 mg/day
  - ETH 1200 mg/day
  - PZM 500 mg QID

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HEM	CD4 CD8 Direct			
HEM	CD45CD3CD4 Abs	46	cells/ul	405-1213
HEM	CD45CD3CD8 Abs	22	cells/ul	127-735
HEM	CD4CD8 Direct Ratio	2.1	Ratio	
HEM	CD45CD3CD4 %	44	%	
HEM	CD45CD3CD8 %	21	%	

6 WEEKS LATER

- Repeated CD4 cell count 161 cells/ul
  CD8 56 cells/ul

Jan 23, 2009 10:10	Resulted	HEM	CD4 CD8 Direct					M10
Jan 23, 2009 10:10	Resulted	HEM	CD45CD3CD4 Abs	161	cells/ul	405-1213	L	M10
Jan 23, 2009 10:10	Resulted	HEM	CD45CD3CD8 Abs	57	cells/ul	127-735	L	M10
Jan 23, 2009 10:10	Resulted	HEM	CD4CD8 Direct Ratio	2.8	Ratio			M10
Jan 23, 2009 10:10	Resulted	HEM	CD45CD3CD4 %	63	%			M10
Jan 23, 2009 10:10	Resulted	HEM	CD45CD3CD8 %	22	%			M10
Jan 23, 2009 08:34	Resulted	BIO	Magnesium	0.74	mmol/L	0.75-1.25	L	M10

CONCLUSIONS

- Assessment of TB risk factors is an important first step in the management.
- Atypical presentation of TB is challenged by the prolonged time required to confirm the diagnosis, which can lead to:
  - Delayed treatment.
  - Over-investigation, to role out serious differential Dx.
- TB related pathological features and immunological reactions varies.
  - Non-necrotizing granuloma does not rule out TB.
  - TB can reduce CD4 cell count to a critically low level.


THANK YOU