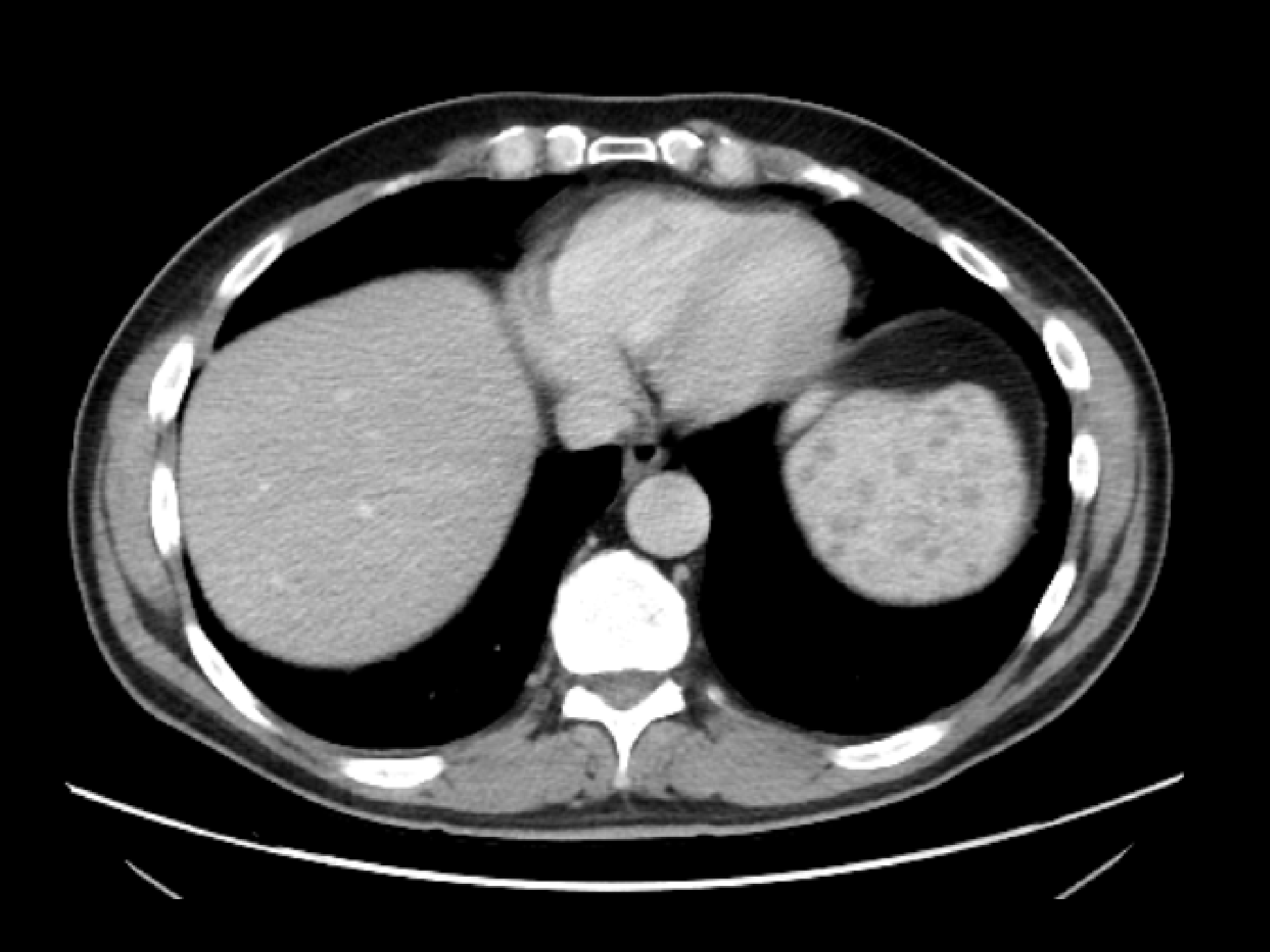
INFECTIOUS DISEASE CASE

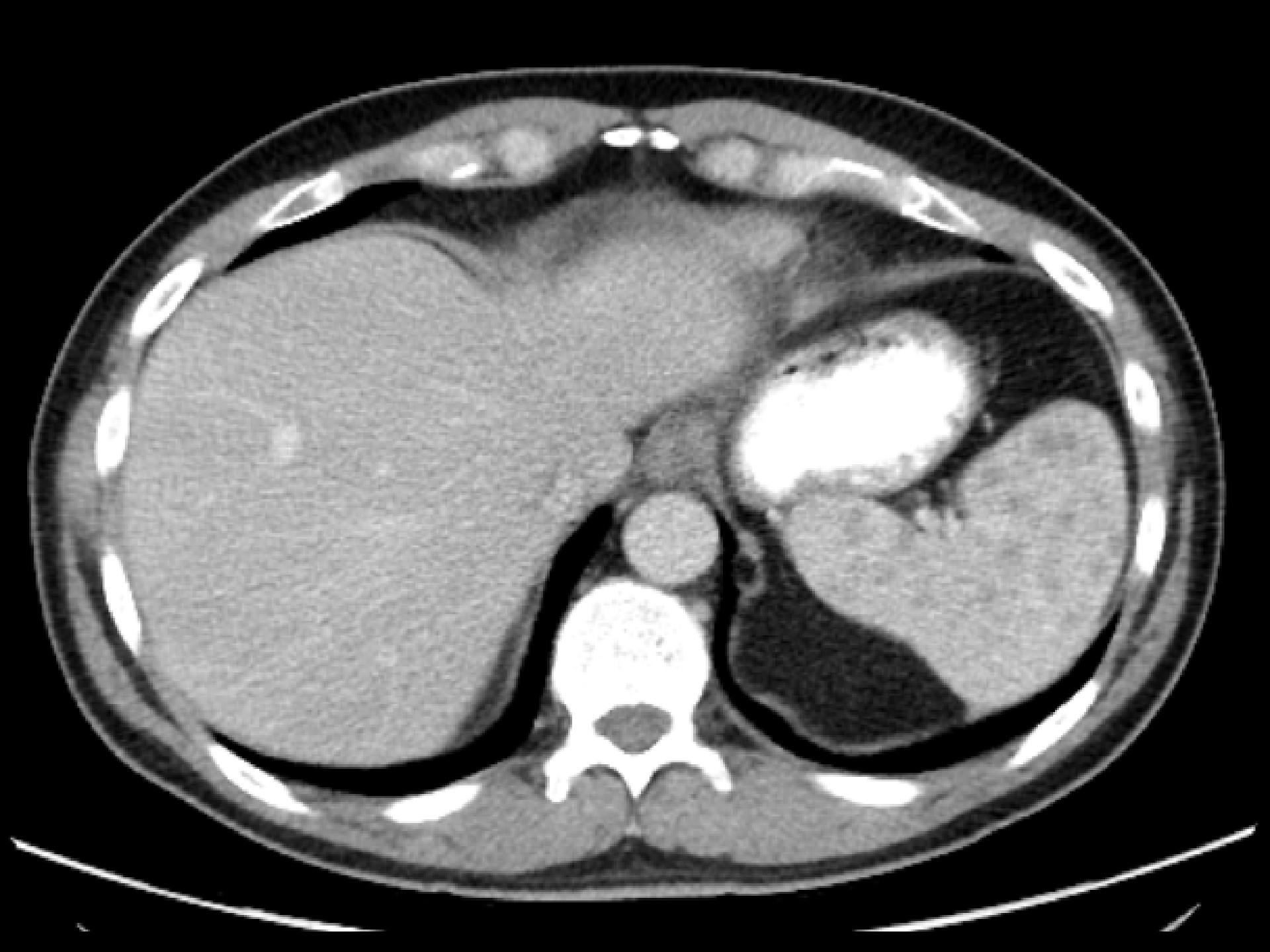
ACP
9/13/2019

HPI

This is a 58-year-old man who is been under evaluation by Dr. Martin for possible but not yet proven lymphoma

- RLQ pain which actually somewhat predated his other symptomatology; radiates to testicle
- Hernia mesh repair that was giving him ongoing discomfort, but this has been worse lately
- Neuropathy on the dorsum of his LEFT hand
- Axillary pain with his lymph nodes LEFT>RIGHT
- Neck is tender bilaterally
- LEFT 3rd toe is purple, but he has a history of frostbite





CT CAP REPORT

Impression:
1. Multiple subcentimeter hypodensities throughout the spleen. The
spleen is mildly enlarged. Lesions are technically nonspecific.
Differential includes infection, granulomatous disease, and tumor
(such as lymphoma/leukemia).
2. Diffuse nonspecific small centrilobular nodules throughout the
visualized lungs. These are also nonspecific with a long differential.
Differential includes infection with endobronchial spread, including
atypical and fungal infections, bronchiolitis, hypersensitivity
pneumonitis, respiratory bronchiolitis interstitial lung disease,
pulmonary vasculitides, and bronchoalveolar carcinoma with airway
spread.
3. Small nonspecific lymph nodes in the mesentery and retroperitoneum.
No discrete lymphadenopathy.
4. Appendix is normal.

PRIOR MANAGEMENT

CT of his abdomen and pelvis that showed splenic lesions but none in liver

No explanation for the RLQ pain

CT chest that showed some nodules, and is referred to Dr. Ojha

Prior discussion of doing a splenectomy for diagnostic purposes, but they have held off on this

They tried conservative management with Cipro but there has not been substantial improvement

He might be going for bronchoscopy in the future

LABS

	02/15/18 10:29
WBC	2.5 L
RBC	5.49
Hgb	15.9
Hct	47.6
MCV	86.7
MCH	28.9
MCHC	33.4
RDW	13.6
Plt Count	156
MPV	9.3
Neut %	61
Lymph %	25
Mono %	12
Eos %	2
Baso %	1
Absolute Neutrophils (auto)	1.5 L
Absolute Lymphocytes (auto)	0.6 L
Absolute Monocytes (auto)	0.3
Absolute Eosinophils (auto)	0.0
Absolute Basophils (auto)	0.0
Nucleated RBCs #	0.02
Nucleated RBCs/100 WBC	
Nucleated RBC %	0.7 H
ESR	3

CMP was normal

HISTORY

Past Medical History:

- Anxiety, pneumonia, lumbar osteoarthritis, history of C. difficile, diverticulitis, neuropathy, workup ongoing for possible lymphoma

Past Surgical History:

- Cholecystectomy, hernia repair with mesh 4-5 years ago

Family History:

- Father died of lung cancer. No other family history of immune system dysfunction or severe infectious diseases

HISTORY

Social History:

- He drinks 2 beers a week.
- He does not smoke or use drugs.
- He lives locally with his wife. They have several children and grandchildren.

SOCIAL HX

- No overt risk factors for tuberculosis, never spent time in jail.
- He has had travel in the last 20 years to the Bahamas, Western Europe, turkey, Greece, and also a number of states including Georgia, Maryland, Nevada (Las Vegas), Idaho, Mississippi, California, Louisiana, Washington.
- They have one indoor dog. He did do some packaging of wild game during hunting season.

DIFFERENTIAL DX FOR SPLENIC LESIONS?

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Staphylococcus (hematogenous)

Streptococcus (hematogenous)

Salmonella

Other GNR

Bartonella (AKA bacillary peliosis)

Brucella

A number of fungal infections, ?(hepato)splenic candidiasis

AFB/TB/NTM

Specific helminths

Noninfectious differentials: broad, but could include sarcoid, calcifications, or infarcts

BIG ID LAB WORKUP

Blood culture – bacterial and fungal

Galactomannan/Beta-D-glucan

Quantiferon

Sputum AFB Cx/smear

Bartonella IgG/IgM

Brucella IgG/IgM

He will also continue w/ bronchoscopy

BIG ID LAB WORKUP

Collected ▲	Source	Procedure/Result	Report	Grid
03/06/18 13:54 Complete	Blood	Acid Fast Bacilli Smear - Final Acid Fast Bacilli Culture - Final NO GROWTH 42 DAYS		
03/06/18 13:51 Complete	Blood	Acid Fast Bacilli Smear - Final Acid Fast Bacilli Culture - Final NO GROWTH 42 DAYS		
03/06/18 11:00 Complete	Drawn From Left Antecubital	Blood Culture - Final NO GROWTH AFTER 5 DAYS Blood Fungal Culture - Final NO GROWTH 14 DAYS		
03/06/18 11:00 Cancelled	Blood	Blood Fungal Culture - Cancelled		
03/06/18 11:00 Cancelled	Blood	Acid Fast Bacilli Smear - Cancelled Acid Fast Bacilli Culture - Cancelled		
03/06/18 10:55 Complete	Drawn From Right Antecubital	Blood Culture - Final NO GROWTH AFTER 5 DAYS Blood Fungal Culture - Final NO GROWTH 14 DAYS		
03/06/18 10:55 Cancelled	Blood	Blood Fungal Culture - Cancelled		
03/06/18 10:55 Cancelled	Blood	Acid Fast Bacilli Smear - Cancelled Acid Fast Bacilli Culture - Cancelled		
03/06/18 10:55 Complete	Blood	TB Test (QFT) (MIC) - Final		

BIG ID LAB WORKUP

	03/06/18 10:55
Bartonella henselae IgG	<1:128
Bartonella henselae IgM	<1:20
Bartonella quintana IgG	<1:128
Bartonella quintana IgM	<1:20
A. galactomannan Ag EIA	<0.500
Beta-(1,3)-D-Glucan	<31

AN ANSWER!

Brucella Comment	SEE COMMENTS
Brucella IgG Antibody	Negative
Brucella IgM Antibody	Positive H

Confirmatory Testing was also positive!

Miscellaneous Test Result

Collected	Result	Units	Range	Comments	Group
03/06/2018 10:55	SEE COMMENTS				

Test	Result	Flag	Unit	RefValue
Brucella Ab, Agglutination, S	1:160	H		<1:80

SEMI-URGENT RESULT
Test Performed by:
Mayo Clinic Laboratories - Rochester Superior Drive
3050 Superior Drive NW, Rochester, MN 55901

TREATMENT

PICC line inserted

Gentamicin 5mg/kg x10 days

WITH Doxycycline 100mg PO BID x3 months (minimum of 6 weeks recommended)

- Tolerated well aside from occasional photosensitivity

And fortunately this regimen is quite low risk for C.diff recurrence (patient had hx of C.diff, 1 year prior)

- FUN FACT: doxycycline actually has a protective effect against C.diff!

TREATMENT

TEE done, and fortunately was negative for valvular vegetations

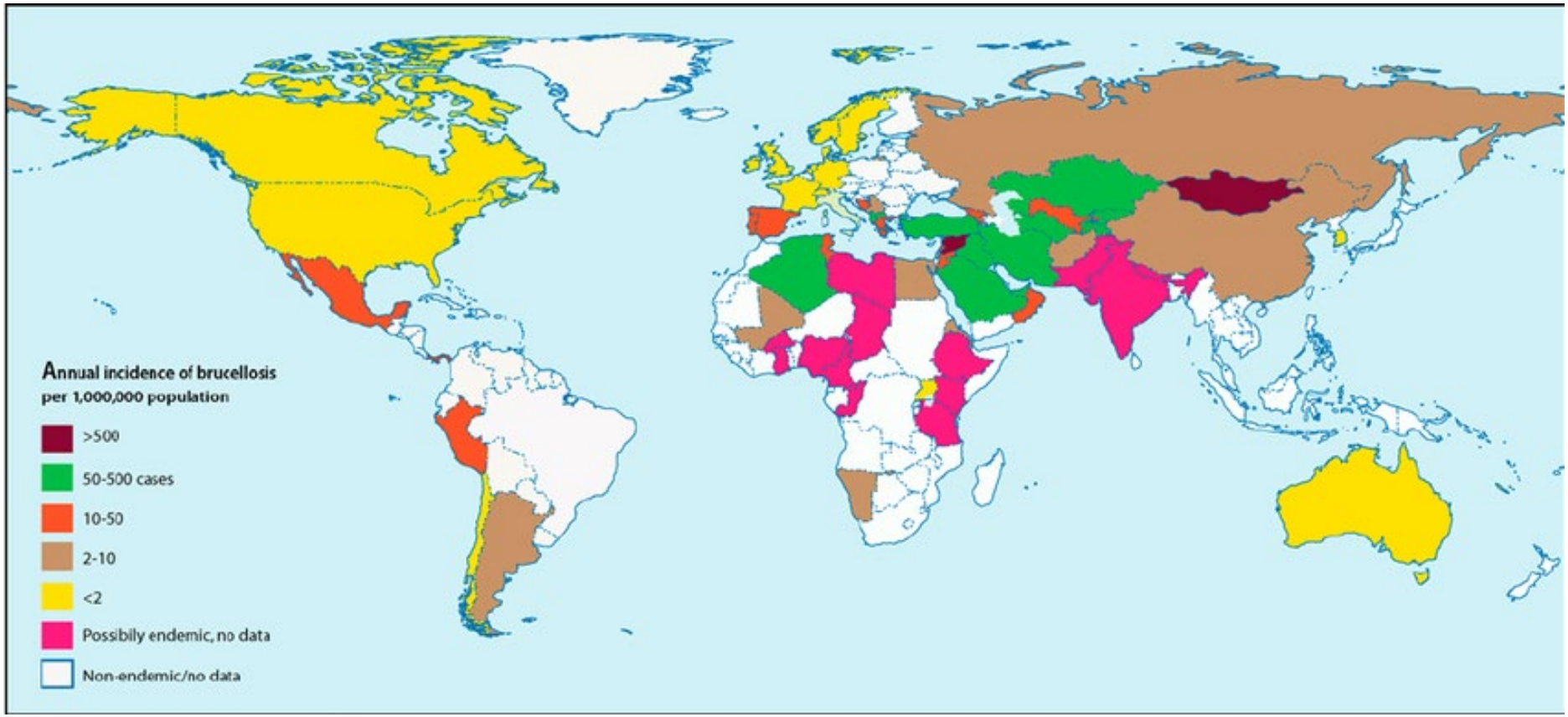
Ophthalmology exam: completely benign

BRUCELLA

Zoonotic disease:

- B. abortus: cattle, buffalo, elk
- B. melitensis: goat, sheep, camel
- B. suis: swine, wild animals
- B. canis: dogs
- B. ovis: sheep
- B. neotomae: desert and wood rats
- B. delphini, pinnipediae, cetaceae: marine mammals

GEOEPIDEMIOLOGY



EXPOSURE

Animal direct contact (esp if cuts/abrasions, birthing fluids/tissue)

Inhaled aerosolization

Raw cheese

Unpasteurized milk

Slaughterhouse workers

Veterinarians

Lab contact (most common lab-acquired illness)

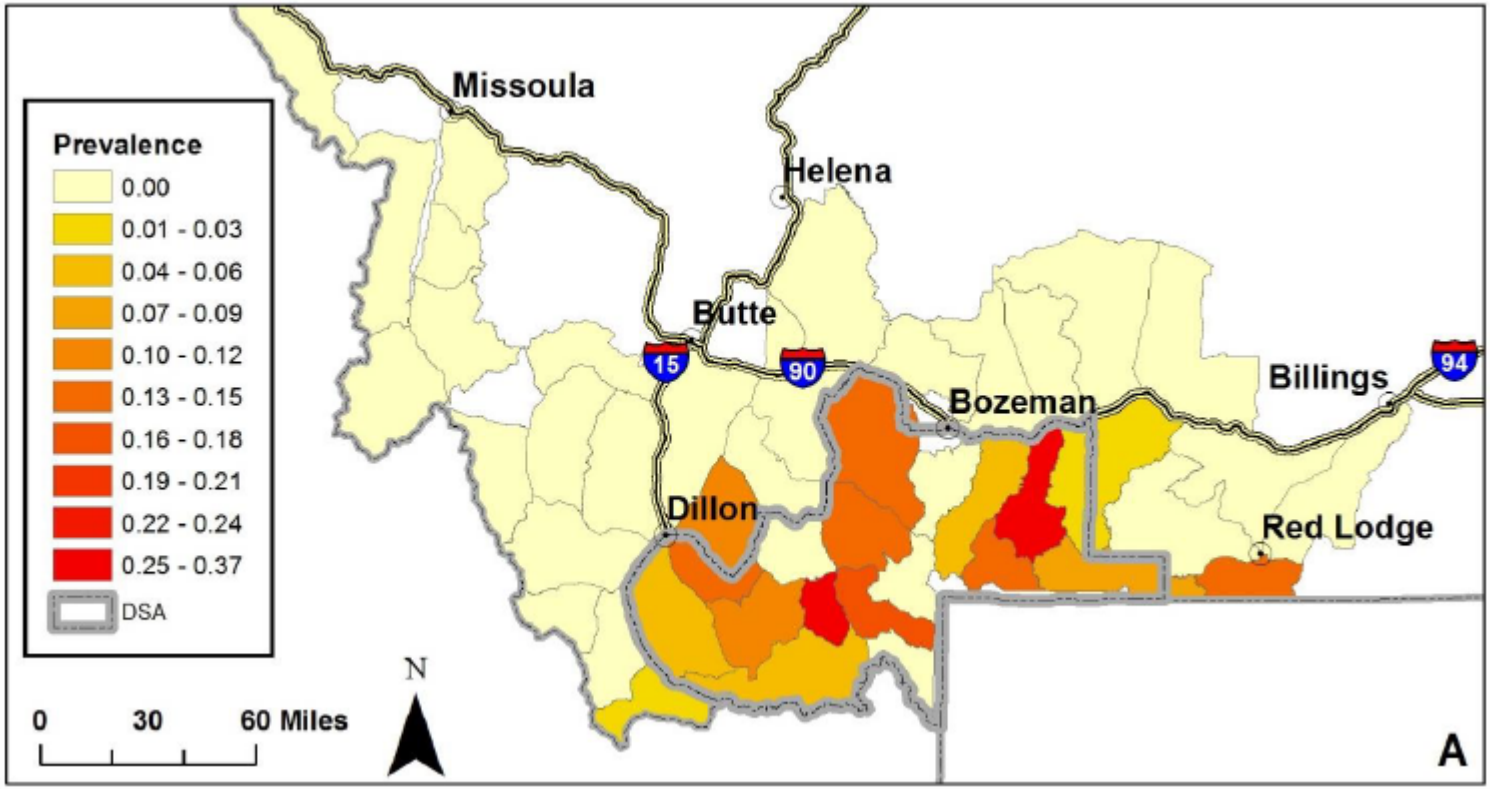
MT FISH AND WILDLIFE WEBSITE

"It is thought that brucellosis arrived in North America with infected European cattle sometime between the 16th and 18th centuries. Brucellosis arrived within the Greater Yellowstone Ecosystem sometime prior to 1917 when it was first detected in Yellowstone National Park, and subsequently spread to bison and elk throughout the region, including portions of Idaho, Montana, and Wyoming. Eradication efforts throughout North America have eliminated the disease in cattle with the exception of sporadic cases in the Greater Yellowstone Area caused by

MT FISH AND WILDLIFE WEBSITE

Vaccine available for farmed animals

Elk surveillance in southcentral MT, ID, WY



BRUCELLA PRESENTAT

Can be acute, subacute, or chronic
1-4 week incubation period, sometimes longer

Fever (90%), osteoarticular disease (20-30%, esp sacroiliitis, can be vertebral), meningitis, endocarditis, endophthalmitis, pulmonary, genital, renal, many others ("great imitator" like syphilis)

Cold abscesses

Dx w/ serology (many different serological tests), bone marrow culture, PCR

TREATMENT

Regimen depends on age, if pregnant, and site of infection

Agents include doxycyline, gentamicin, T/S, rifampin, quinolones

10% relapse rate after Tx

REFERENCES

UpToDate

Hopkins Antibiotic Guide

MT Fish and Wildlife Website