

Case Study

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Disclosure

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No relevant financial relationships to disclose.

What Week Is This?

1. National Radiologic Technology Week?
2. National Nurses Week?
3. Gun Hunting in Wisconsin?
4. CDC – Get Smart About Antibiotics Week?
5. Medical Laboratory Professionals Week?

The power to prevent antimicrobial resistance is in your hands.

NO ANTIBIOTICS FOR VIRAL INFECTIONS

Know When Antibiotics Are Indicated

FREE CE: [Click Here](#)

Identify and Validate Patient Concerns

FREE CE: [Click Here](#)

Recommend Symptomatic Therapy for Viral Illnesses

FREE TOOL: [Click Here](#)

Get Smart About Antibiotics Week

November 14–20, 2016

To Get Smart: [Click Here](#)

For more information visit www.cdc.gov/getsmart or call 1-800-CDC-INFO

New & Progressing Lesions on Left Foot and Abdomen

- 37 y/o ♂ presents to an urgent care center
- Smoker, 1/2 pack per day
- Construction worker – roofer
- Works outside in all kinds of weather
- Plays competitive soccer most weekends
- Typically in very good health

Past Medical History

- Broken left ankle 3 years ago
- Eye injury from nail gun “several years back”
- Rarely even gets a cold

Patient Examination

- No fever
- No chills
- No weight loss
- No cough
- No change in routine
- No medications
- Vitals all normal
- Lesions on foot and abdomen noted

Patient Examination



Lesions on left foot, first noticed about 9 months ago

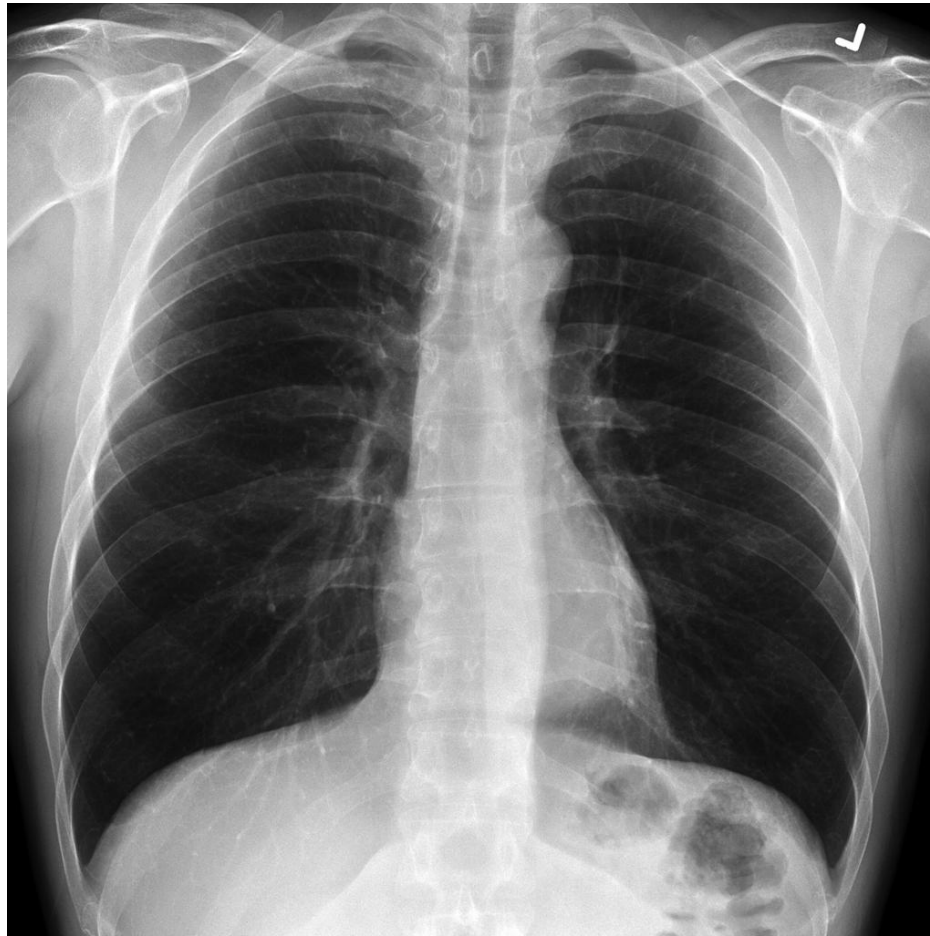
Patient Examination



Patient Workup

- Chest X-ray
- BMP
- CBC

Chest X-ray



Patient Workup

- Chest X-ray - normal
- BMP - normal
- CBC - normal

Patient Diagnosis/ Treatment/Follow Up

- No diagnosis determined
- Given one IM dose of gentamicin
- Over 4-6 weeks there was a transient improvement of all skin lesions

.....As Time Goes By.....



Three Months Later

- Patient presents to hospital ED
- Complains of 3-week history of progressive scrotal lesions, started with single lesion
- Lesions are red, inflamed, painful, with scrotal ulcerations

Patient Examination

- No fever
- No chills
- No weight loss
- No cough
- Painful scrotal lesions
- Lesions noted on foot and abdomen
- No medications
- Vitals all normal

Patient Examination



ED Patient Workup

- Chest X-ray
- CAT scan chest, abdomen, pelvis
- BMP
- CBC
- UA
- HIV serology

Which of These Tests Do You Think Will Be Flagged As Abnormal?

1. Chest x-ray/CT scan of the chest?
2. BMP?
3. CBC?
4. HIV serology?
5. None of them?

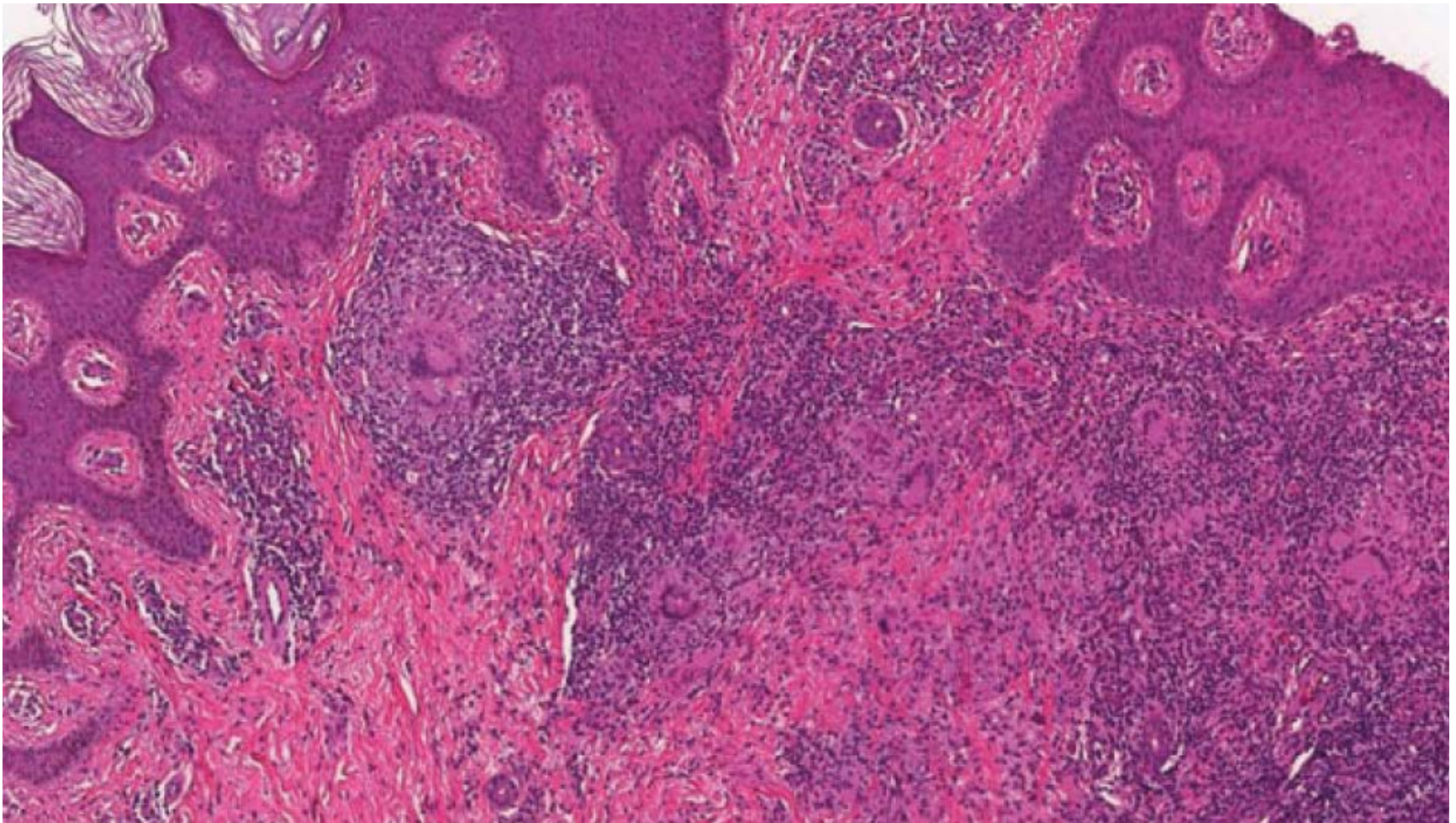
ED Patient Workup

- Chest X-ray - normal
- CAT scan chest – normal , abdomen - normal, pelvis – scrotal cellulitis and soft tissue inflammation
- BMP - normal
- CBC - normal
- UA – normal
- HIV serology - negative

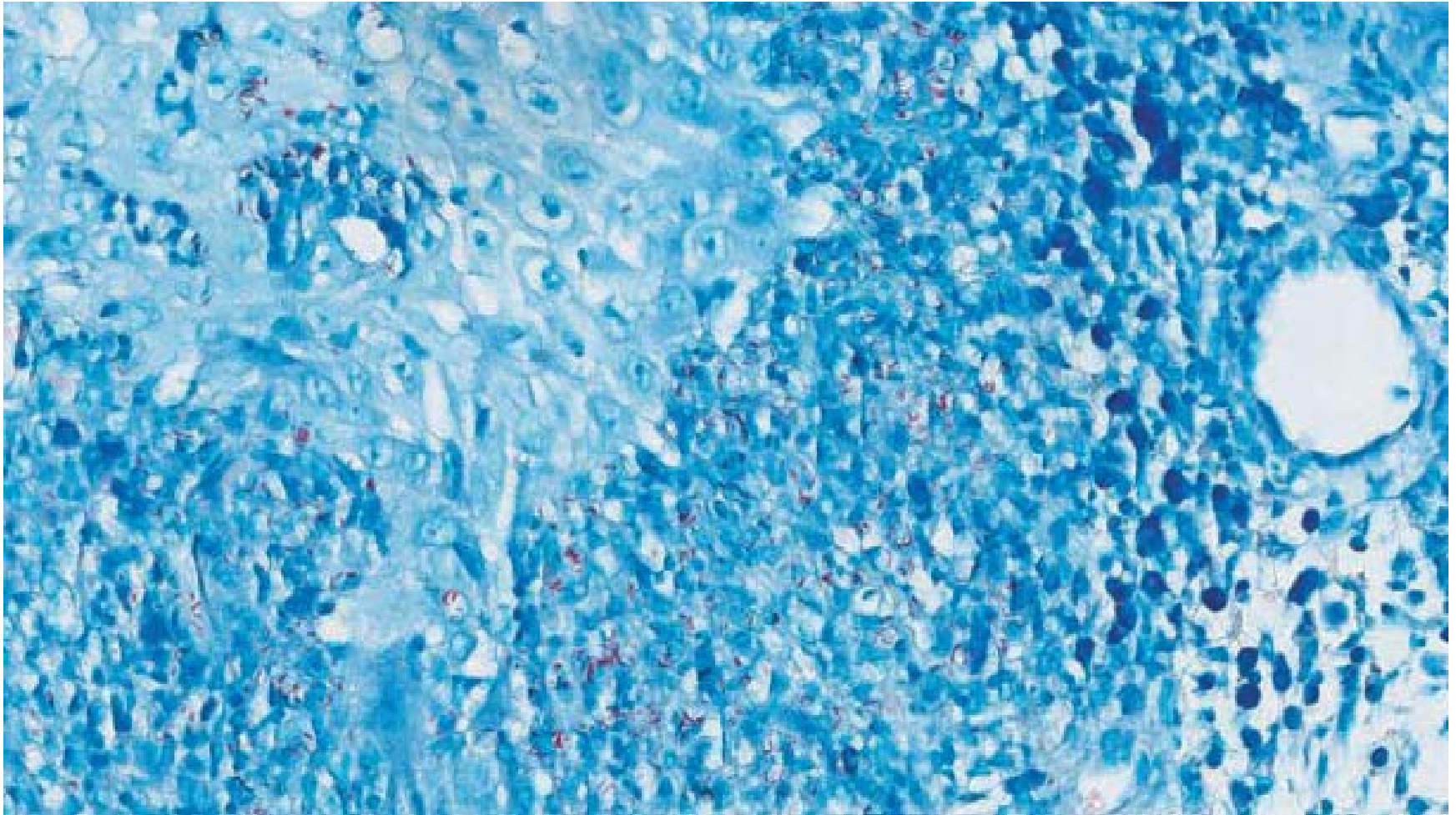
Hospital Course

- Started on Vancomycin and Pip/tazo –no improvement observed after 72 hours
- Shave biopsy of scrotum obtained; H&E, Ziehl-Neelsen, and GMS stains performed
- Specimens for bacteria, AFB, and fungus cultures collected

H&E Stain



Ziehl-Neelsen Stain



Hospital Course

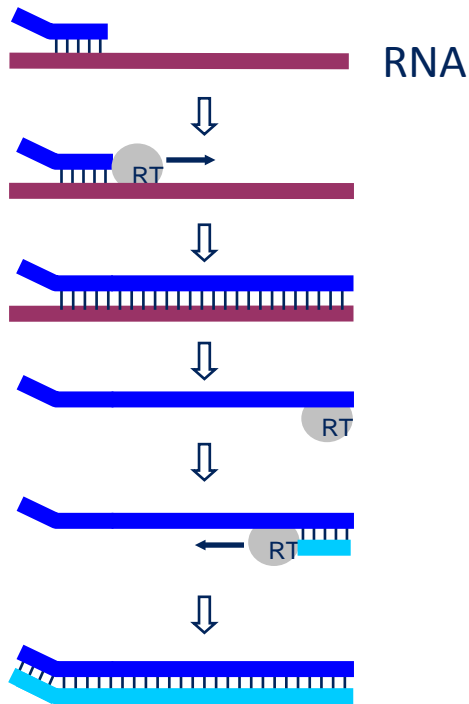
- Residual shave biopsy tissue of scrotum was tested using the Hologic amplified *M. tuberculosis* complex test – **the result was positive**



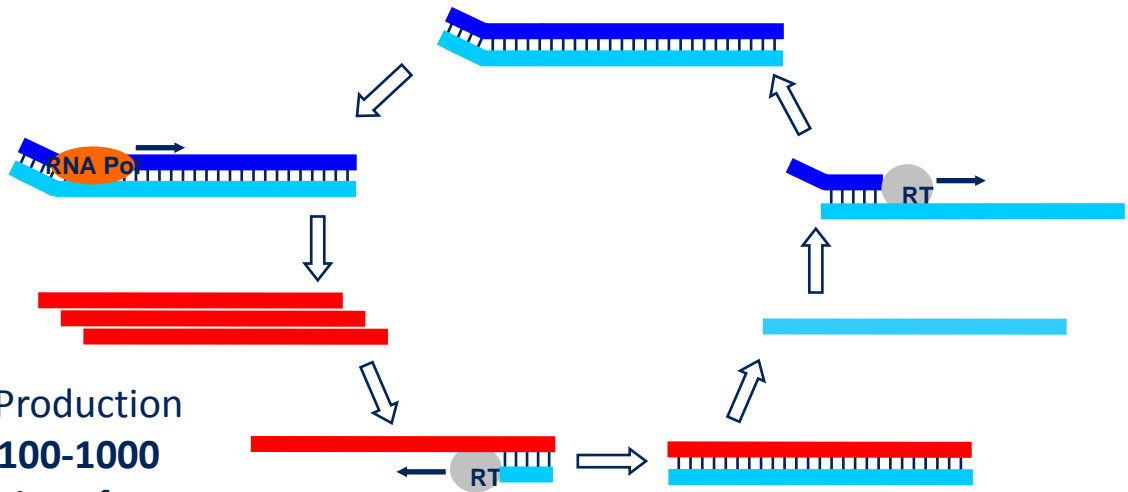
What Nucleic Acid Amplification Technology Is Used In The Hologic Assay?

1. Polymerase Chain Reaction (PCR)?
2. Transcription Mediated Amplification (TMA)?
3. Strand Displacement Amplification (SDA)?
4. Nicking Enzyme Amplification Reaction (NEAR)?
5. Loop-Mediated Isothermal Amplification (LAMP)?

Transcription Mediated Amplification



8. Production of **100-1000** copies of RNA transcript



Hospital Course

- Three sputum specimens were collected for AFB stain and culture
- All three sputum specimens were negative for AFB by Auramine-Rhodamine staining
- All three sputum specimens grew *M. tuberculosis* complex after 14 - 17days
- After 21 days of incubation the scrotal lesion MGIT tube incubated at 37° C grew *M. tuberculosis* complex

Which One Of These Mycobacterium Is Not A Member of *M. tuberculosis* complex?

1. *M. microti*?
2. *M. africanum*?
3. *M. caprae*?
4. *M. arupense*?
5. *M. pinnipedii*?

M. arupense

- Belongs to *M. terrae* complex
- Associated with cases of tenosynovitis/osteomyelitis of fingers/wrist
- Formally referred to as *Mycobacterium sp.* MCRO 6
- Non-chromogenic
- Grows rapidly on LJ at 30° C and slowly at 37° C
- Type strain isolated from a human tendon



Diagnosis/Conclusions

- Patient has cutaneous tuberculosis
- Very uncommon in US, only 1-2% of TB cases
- Patient's lung and cutaneous involvement suggest hematogenous spread rather than primary inoculation
- A 2014 study of 103 cases of extra-pulmonary TB found that 26% of patients had a normal CXR*
- Reason(s) for cutaneous involvement in this patient is unknown
- Additional questioning of the patient elicited a history of past exposure to tuberculosis



The End

