

Pediatric Case Studies

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Michael

- ▶ 9 year old US–Born
- ▶ Household contact to a culture confirmed case of pulmonary TB

Michael's Source Case

- ▶ Reported on January 30th, 2014
 - Smears grossly positive 4+ at time of report
 - Bacteria identified as Tuberculosis
 - PAN sensitive
- ▶ Hospitalized until February 4th, 2014, released to home isolation
- ▶ Infectious period identified as starting August 2013
- ▶ Source case remained smear positive until April 9th 2014
- ▶ Source Case moved to NY in April 24th 2014

Questions

- ▶ Should Michael have been evaluated for window prophylaxis?
 - No.
- ▶ What is the definition of break in contact?
 - Occurs when source case is physically separated from the contacts OR the source case has met the criteria for non-infectiousness
- ▶ When did the break in contact occur for Michael?
 - April 9th

Michael

▶ 1st TST

- Placed on February 11th 2014
- Read on February 13th 2014
- Result: 00mm

▶ 2nd TST

- Placed on June 16th 2014
- Read on June 18th 2014
- Result: 24mm
- Michael's father reported that Michael had a cough for the "last couple of weeks" due to his allergies at the time of the second test

Michael

- ▶ Appointment secured for Michael for July 18 2014
 - Michael's father now reports that Michael's cough is not getting better, even though he has been giving Michael the allergy medicine

What would you do?

- a. Tell Michael's dad to take him to the ER?
- b. Ask the clinic to move up Michael's appointment
- c. Sit tight, Michael has allergies

Michael

- ▶ The original appointment for July 18th was kept.
 - Michael was still coughing
- ▶ CXR Impression:
 - Moderate R side pleural effusion
 - Subtle nodular air space disease in the RUL
 - Possible some R hilar adenopathy
 - Concerning for TB

Michael

What should happen next?

- a. Collect sputum, wait for the cultures, and then ask the doctor to start on meds
 - b. Start RIPE
 - c. Just hang tight, it's probably walking pneumonia
- 

Michael

- ▶ Michael was started on July 21st 2014
 - INH
 - Rifampin
 - PZA

Why did the MD not include Ethambutol in the regimen?

- a. The source case was already known to be PAN sensitive
 - b. You never give kids EMB because it can mess up their vision
 - c. Because Dr. Starke said so
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Michael

- ▶ Is Michael considered infectious?
 - Generally children are not considered infectious
 - Must have a strong enough cough effort to express the bacteria into the air
 - Exception: Adult presentation of disease (i.e. cavitory CXR)
- ▶ Can Michael return to school?
 - Yes. Michael was not infectious.
- ▶ Should a contact investigation be conducted in the school Michael attends?
 - No.

Michael

- ▶ Just a little more:
 - Everyone in Michael's household converted their TST or IGRA
 - Michael's 17 year old sister has also been reported as having radiological findings consistent with active TB. No signs or symptoms reported.

Questions

- ▶ Should a contact investigation be conducted at the sister's school?
 - No
 - Remember, we always start with the closest contacts
- ▶ What would you do if you had to do an investigation in a school?
 - Meet with:
 - School management: School principal, the school district administration, the district person in charge of health to advise of the potential for exposure
 - School staff
 - Parents – Invite everyone. If possible have a TB expert or MD available to answer questions
 - Start small. **DO NOT AGREE** to test everyone in the school there is no need!

Emmanuel

- ▶ 5 months old at the time he was identified as a contact
- ▶ Evaluation at that time
 - Normal CXR
 - No signs and symptoms of active TB

Should Emmanuel start window prophylaxis?

Emmanuel

- ▶ Orders for window prophylaxis were sent to health department

BUT

Mom moves without letting anyone know...

What education should be given to the mother to express the importance of window prophylaxis?

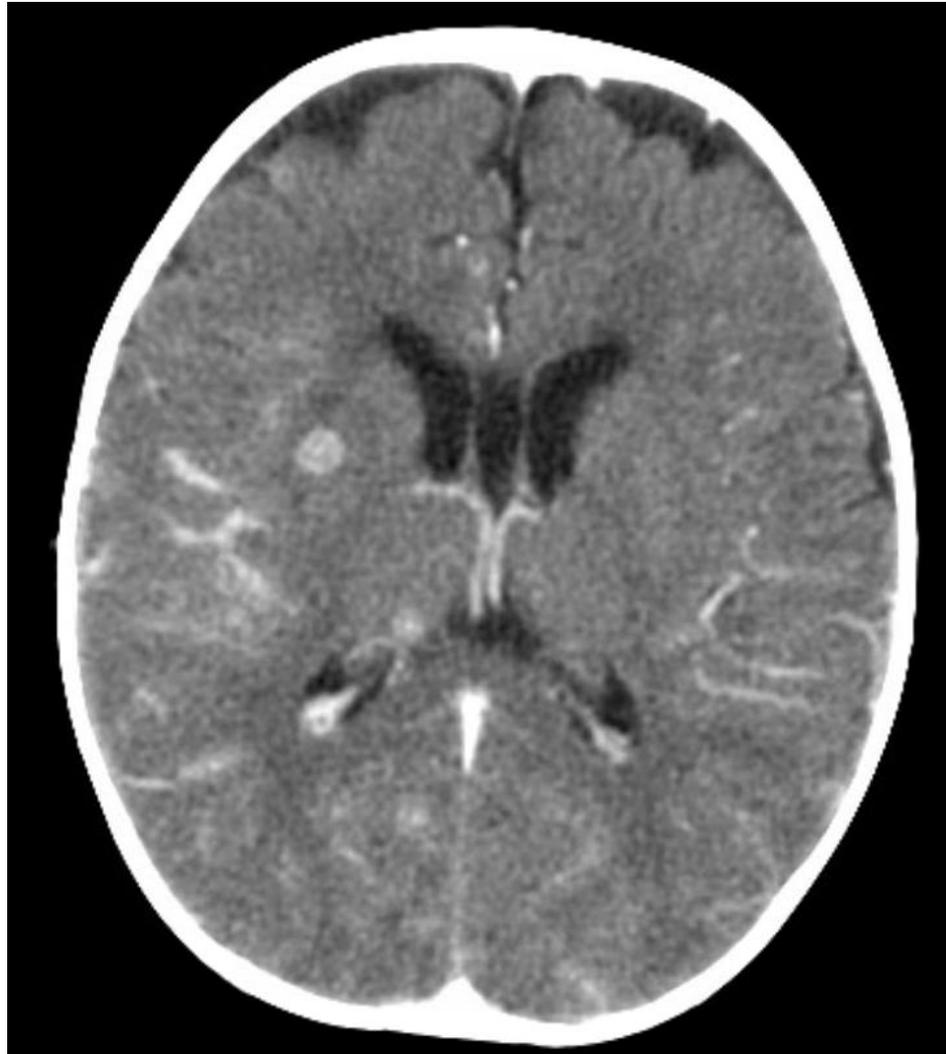
Emmanuel

- ▶ Presents to ER two months later....

Emmanuel



Emmanuel



Tuberculoma

Nicole

- ▶ 2 months old at the time she was identified as a contact to her mother

Should a TST be done on a child this young?

Nicole

- ▶ We make a home visit because mother is being a bit of challenge regarding DOT
- ▶ Mom has INH, EMB and Avelox
 - Mom's family has been sending medications from Peru

Should the red flags start waving at this time?

Nicole

- ▶ Nicole is evaluated...
 - Found to have signs and symptoms of active TB disease!
 - Admitted to the hospital
 - Gastric aspirates are obtained
- ▶ Nicole is started on treatment for TB
 - Treated for PAN sensitive TB

Nicole

- ▶ Nicole's regimen has to be changed to treat for MDR TB
 - Requires hospitalization because the treatment includes Kanamycin which is given IV...
- ▶ What would you do in a situation when Mom is infectious and baby requires hospitalization?
 - Both mom and baby were admitted to the adult floor and allowed to "room in"
 - Dr. Starke and his nursing staff provided care to the baby

Nicole

- ▶ Nicole is ready for discharge—Now what?
 - Child has a need for IV medication

What resources would you look into?

- Emergency Medicaid
 - Home health
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Nicole

- ▶ Sent home with Mom
- ▶ Mom is still having a difficult time coming to grips with their diagnosis...
- ▶ Mom says that “Nicole pulled out her line”
 - This happened more than once

What measures would you take?

- Went as far as to contact CPS

Nicole

- ▶ After a lot of work, sweat and tears... and I think a few more grey hairs...
 - ▶ We finished the therapy for both Nicole and Mom.
 - ▶ Last I saw Nicole she was a happy baby girl who loved to give hugs!
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Questions?

