Utilizing All the Tools in the TB Toolbox

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Background

- TB Program, City of Stamford, CT
- Stamford, CT located 25 miles outside of New York City; 117,000 population
- 235 new latent and 12 new active TB cases in 2007

CDC Chest x-ray and Classification Worksheet, Tool # 1

- Chest x-ray in Philippines, 12/27/06
- Abnormal finding can suggest ACTIVE TB: infiltrate or consolidation , nodule with poorly defined margins, left apical infiltrate with small nodules,
- Sputum smear negative results 1/10,1/11, and 1/12/2007

Tools Used Upon Initial Visit

- 23 y/o, female, Philippine born, HIV negative,12/27/06
- Tool # 2: TST placed on 7/3/07, read 7/5/07, 28 mm = positive
- Tool # 3: Three sputums obtained, 7/3,7/4,7/5/07 and sent to CT state lab
- Tool # 4: Chest x-ray done in US on 7/5/07 Radiologist read: “Probable old left apex granulomatous disease”

Signs & Symptoms Review Tool #5

- Recent close contact to an active TB case, neighbor and relative, 6/07
- Resident congregate setting, 11 people lived in house
- Weight loss of 3-4 lbs.
- C/o shortness of breath
- Told she had TB
- 1st came to US in 2003, left 2005, returned 2007, had a child in 2002

Signs & Symptoms Review Tool # 5 Cont.

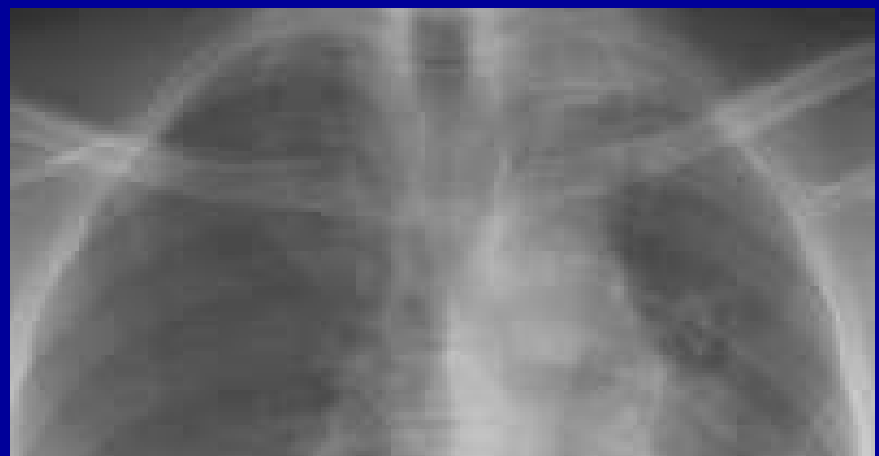
- Remarks: Suspected clinically active pulmonary TB, not infectious
- Presently asymptomatic
- Chemotherapy: none
- Eligible to leave for immigration to USA
- If applicant becomes symptomatic before departure, needs to return to screening clinic in the Philippines

TB Clinic MD Visit, Tool #6

- 7/13/2007: Emigrated to US 3 weeks ago
- Received a TST which was positive
- Subsequently received a CXR
- Also has CXR films from 6 months ago as part of screening when leaving the Philippines

TB Clinic MD Visit, cont.

- CXR Left UL (apical) scarring
- Plan:
  - INH 300mg p.o. q day X 9 months
  - Return in 4 weeks
  - Vitamin B6 50 mg po q day.



GOT SPUTUM?

Courtesy of The College of Physicians of Philadelphia

Culture Result Tool #7

- 7/25/07 Called by CT state lab, midget culture from sputum on 7/07 was AFB+
- MD in clinic on vacation, notified colleague who told me to bring to hospital, both myself and pt. masked.
- Pt. put in a negative pressure room and had a chest x-ray and 3 more sputa
- Started RIPE on 7/26/07
  INH 300mg, Rifampin 600mg, PZA1500 mg, EMB 800 mg, and Vit. B6 50 mg

Hospitalization Tool #8

- After 1 week of therapy, 3 negative sputum smears obtained
- Signs and symptoms subsided so on 7/31/2007 discharged home on meds
- Wore mask for 1 more week and was on home isolation for 1 more week
- +MTB reported on 8/1/07 from sputum collected on 7/3/07
- Sensitivites: MR susceptible to all TB meds, 8/8/07

Direct Observation Therapy (DOT) Tool #9

- 8/3/07 Started T.I.W. therapy
- Client moved to Norwalk and seen by Norwalk PHN from 8/27-9/10
- Client then seen by Stamford PHN starting 9/10, met the client after her work at 4PM

Contact Investigation Tool #9

- TSTs placed on 5 contacts
- 2 children in household. One child age <4 years with a negative TST result did not go on ‘window prophylaxis’
- 2 adults with a history of LTBI:
  1 had tx, 1 refused tx., 1 neg. TST

TB Toolbox

- CDC Chest X-ray Classification Worksheet
- TST
- Sputa
- Chest x-ray and blood work
- TB Clinic MD visit
- Midget Culture
- Hospitalization
- Direct Observation Therapy
- Contact Investigation

Conclusions

- By utilizing all the tools in the TB Toolbox the RN can assist the MD to diagnose MTB more quickly having all the test results in place before the patient's initial visit.
- By performing tests in a timely manner the pt. is assured prompt treatment, and TB transmission to the general public can more easily be prevented.

Conclusions cont.

- Do not start INH alone if culture results are not finalized to prevent any drug resistance.
- Always have a pulmonologist or radiologist familiar with TB read chest x-ray, because “old” sometimes could be active TB.

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