Tale of Two Doctors and Disseminated TB: 
When You Really Need a Nurse Case Manager!

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Objectives

Upon completion of this training, participants will be able to:

• describe several case management challenges encountered while coordinating treatment and care for a patient with disseminated TB

• state three nurse case management interventions applied to ensure the patient’s medical and psycho/social needs were addressed
Goal of Case Management

“Provide patient-centered care for completion of treatment and to ensure all public health activities related to stopping TB transmission are completed.”

Module 6:
Managing Tuberculosis Patients and Improving Adherence, CDC
https://www.cdc.gov/tb/education/ssmodules/pdfs/Module6v2.pdf

Role of a Nurse Case Manager (NCM)

“Primary responsibility for the coordination of patient care to ensure that the patient’s medical and psychosocial needs are met through appropriate utilizations of resources”

~ Barbara Cole, RN PHN MSN
TB Controller Riverside County Dept of Public Health
Fundamentals of Tuberculosis Case Management

http://www.currytbcenter.ucsf.edu/sites/default/files/coursematerial/%5Bnid%5D/03_fundamentals_of_tb_case_management.pdf
Case Reported to Health Department, December 27th

- Health Dept. notified “BAL (bronchoalveolar lavage) specimen collected December 5 is culture-positive for *M.tb*”

**INTAKE HISTORY:**
- A 40 yo Asian male, highly TB endemic country
- Peritoneal tuberculosis
- Treatment started Dec. 22nd = RIPE
  - Rifampin, Isoniazid, Pyrazinamide, Ethambutol

**TB Laws**

In WA state, cases of confirmed TB as well as cases of suspected TB are reportable.

- Health care providers/facilities must notify the local health department
  - Requires a phone call to reach a live person at the local health jurisdiction, 24/7
  - Must be reported as soon as clinically suspected
- Laboratories must report to the WA State DOH within 2 business days a positive culture and drug sensitivities on the first isolate processed

https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions/HowToReportPost
Nurse Case Management Activities – Painting a Picture

• Requested records
  ▪ Lab tests, CXR, progress notes from treating/referring provider

• Gleaning key information from records
  ▪ AFB smears/cultures, Nucleic Acid Amplification Test (NAAT)
  ▪ CXRs reports, other medical conditions and patient demographics

• Notifying TB Medical Consultant (TBMC)
  ▪ Asap, within 24 hrs. with pertinent information

Background History

September 2016
• Ankylosing spondylitis
• QuantiFERON test (QFT-Gold) = Negative
• CXR negative for TB
• Placed on TNF alpha inhibitor and prednisone

April 2017
• CT spine/chest show abnormalities
• Bronchoalveolar lavage (BAL) culture-negative
• QuantiFERON test indeterminate
• Diagnosed with sarcoidosis
Background History (2)
May - September 2017
• Condition continues to worsen
  • Develops cough, fevers, night sweats, abdominal distension, weight loss, anorexia

October - December 2017
• CT chest worsening
• Peritoneal and BAL fluids all smear-negative
• Cultures positive for M. tb – peritoneal fluid 12/21 and BAL 12/27

Nursing Assessment and Intervention

**Challenge:** How will patient care be managed with two providers involved?

**NCM Response:** Clarify roles
- *Infectious Disease provider will be primary provider responsible*
- *TB Medical Consultant (TBMC) will monitor, offer guidance*
- *Nurse case manager (NCM) will follow active patient protocol, provide TB medications and start Directly Observed Therapy (DOT)*
Nursing Assessment and Intervention

Challenge:
• Patient didn’t want us involved

NCM Response:
• Arranged for ID physician to inform patient how health department would be involved in his treatment

TB Consultant’s Orders

• Request for specific information
  ▪ Prednisone taper schedule
  ▪ Date of last dose of immunosuppressant
  ▪ Peritoneal fluid cell counts and chemistry
  ▪ Abdominal images

• Request for additional laboratory tests:
  ▪ Complete Metabolic Panel (CMP)
  ▪ HIV
  ▪ Sputum and urine for AFB smear and culture
  ▪ CXR
TB Consultant’s Guidance

Identifying and preventing potential problems

- Monitor for signs of IRIS
  - Worsening symptoms: Malaise, fatigue, fever, sweats and anorexia
  - Unmasking of subclinical infection
- Prevent IRIS with at least 3 month prednisone taper

TB-IRIS
Tuberculosis-immune reconstitution inflammatory syndrome is an abnormal, excessive immune response against alive or dead TB Mycobacteria

First Home Visit, Friday, December 29th

What do we find...

Nurse Case Management Activities:
- Introduction, role of NCM, establish rapport
- Patient education on TB
- Discuss and sign isolation contract and consent for treatment
- Assessments, labs, eye exam, medication review
- Initiate contact investigation
- Instruct re. follow-up exams needed – sputum, urine and chest x-ray
Nursing Assessment and Interventions

**Challenge:** Patient not understanding the need for another doctor/nurse to be involved in his care

**NCM Response:** *Policy and reason for labs explained, discussed public health role*

**Challenge:** Patient not wanting daily directly observed therapy, (DOT) visits

**NCM Response:** *Offered Video DOT*

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Nursing Assessment and Interventions

**Challenge:** Patient reported not taking the prescribed prednisone

**NCM Response:**
- Educated patient
- Notified TB Medical Consultant
- Monitored adherence
Wisdom that comes with experience...

Patient complaints:
- Nausea, fatigue
- Liver function test (LFTs) results:
  - AST = 1080 (n=0-40)
  - ALT = 380 (n=0-32)
  - Total bili = 6 (n=0-1.2)
  - Alk phos = 91 (n=39-117)

Patient is Hospitalized, December 30th thru January 19th

*Summary of hospitalization*

**Problems:**
- Drug induced liver injury (DILI),
- Immune reconstitution inflammatory syndrome (IRIS): fevers, worsening pleural effusions
- Complications - hypoxic respiratory failure
- Medication side effects
- Medications trials and changes
Nursing Interventions

Nurse Case Management Activities:

For patient:
• Coordinated labs- Molecular Detection Drug Resistance (MDDR)
• Monitored patient status

For spouse:
• Provided emotional support
• Assistance with calling hospital
• Transportation
• Continued screening process

Patient is Discharged from Hospital, Friday, January 19th

Discharge summary

• Medication regimen:
  ▪ ethambutol, levofloxacin, cycloserine, amikacin (IV), ethionamide

Nurse Case Management Activities:
• Requested discharge records
• Reviewed records
• Requested Medication Administration Record
• Researched management of new TB medication
• Forwarded records to TBCO

Resources:
Nursing Interventions

**Questions:** Amikacin IV? How will that be managed?

**Challenges:** Unable to get the management plan for AMK from Infusion Services

**NCM Response:** Decide to provide monthly hearing tests myself

First Home Visit after Discharge
Monday January 22nd

Follow up after discharge

Nurse Case Management Activities:

- Discussing plan of care
- Assessments
- Patient education re: side effects to monitor
- Check for non TB medications use (prednisone)
- Check patient understanding of AMK admin
- Answered patient questions
Nursing Interventions

• Question: AMK administration timing with oral meds question.
  ➢ should be with oral meds.

Challenge: Patient reluctant to change timing of infusion

NCM Response:
• TBMC sends note to ID to get patient to cooperate
• Agency nurse gives patient instructions

Patient develops symptoms fevers over the weekend of January 27-28

Sunday morning 8:00am
  “My husband has 105 fever since yesterday”

Sunday 4:00pm
  “Tell him to go to ER or contact Dr. ------”

Her reply:
  “He’s okay now”
Home Visit to Follow-up on Call, Monday, January 29th

Patient not doing well

Nurse Case Management Activities:
- Follow-up
- Assess patient: fever, rash, HR 120, RR 38

Nursing Intervention

Challenge: Patient not seeking care

NCM Response:
- Find out why he won’t seek care
- Educate patient
- Support wife in calling doctor’s office
- Patient is seen by his managing provider and given prednisone
Community Health Outreach Worker (CHOW) Calls NCM to Report Symptoms, Tuesday, January 30

Outreach worker calls to report:

- Worsening rash
- Swollen eyes
- Vomiting

Nursing intervention

- Quick assessment over the phone
- Patient call ID doctor
- Transportation to ER
- Inform TBMC know of situation
- Plan to monitor closely
- No VDOT until stable

Plan
- ID doctor calls to discontinue levofloxacin
Challenges

• Patient not reporting problems or seeking care until his symptoms got worse
• Not going to the lab to get blood tests
• His wife said, “he is being completely careless”

Nursing intervention

• Encourage him to prioritize his health
• Schedule home visits before work
• Draw labs and forward them managing doctor
• Discuss challenges with supervisor and TBMC
Monthly Assessment Visit February 28th

Hearing test reveals abnormalities, c/o tinnitus

Nurse Case Management Activities:
• Report abnormal hearing test to TBCO

• Next day, receive orders from TBCO to stop AMK
• Send those orders to the managing provider

Nursing Intervention

Challenge: Stopping AMK that was ordered by the managing provider

NCM Response: Coordinate communication and stopping orders of home delivery of AMK after several calls
Things get better....

- Tinnitus improved
- No concern for IRIS
- Video DOT
- Gained weight
- Tolerating medications well
- Follow-up CXR shows improvement

Key Take Aways...

Case management is critical when there are multiple providers involved in the care of a patient with such complex medical issues

- Keep informed of the other provider’s treatment
- Facilitate communication
- Step in and problem solve when gaps identified
- Enlist the help of the managing provider
- Clarify management and treatment plans with patient regularly
Contact Information

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