Handling Mental Illness in the TB Patient

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TB Intensive
HNTC

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Agenda

• Mental status exam

• Case studies of tuberculosis and mental illness
Elements of a Mental Status Exam

- **A** = appearance, behavior and speech
- **M** = mood and affect
- **S** = sensorium
- **I** = intellectual functioning
- **T** = thought processes and content

### Appearance

- **Age**
  - Younger, older, for his stated age
- **Race**
  - Black, Asian, Caucasian
- **Hygiene**
  - Neat, disheveled, bizarre eccentric, malodorous
Additional Information on Appearance

- Body type, nutrition
  - Normal, thin, cachectic, obese
- Clothing
  - Peculiar, appropriate for the season
- Body decoration
  - Piercing
  - Tattoos

Characteristics of Behavior

- Facial expression
  - Immobile, sad, angry, happy, confused
- Attitude
  - Cooperative, hostile, guarded, aggressive, friendly, seductive, threatening
Other Aspects of Behavior

• Motor activity
  – Psychomotor agitation
    • Anxiety, schizophrenia, mania
  – Psychomotor retardation
    • Depression, catatonic schizophrenia
  – Spontaneous movement
    • Pacing, bizarre posturing, tremor, rocking

How is Speech Described?

• Rate of speech
  – Slow, pressured
• Quality of speech
  – Slurred, dysarthria
• Volume
  – Loud, whispering
Mood and Affect

Emotional responsiveness of the patient
– Depressed, anxious, fearful, euphoric, angry, irritable

Evaluation of the Sensorium

• Alertness
  – Level of consciousness

• Orientation to
  – Person
  – Time
    • Day, month, year, season
  – Place
  – Situation
Elements of the Intellectual Functioning

- Concentration and memory
- Judgment
- Insight
- Abstracting ability

Questions to Evaluate Concentration and Memory?

- Concentration
  - Serial 7’s or 3’s
  - Can you spell WORLD backwards
- Memory
  - Recent
    - what did you have for breakfast?
  - Remote
    - Birthdays, telephone #, address, jobs, schools, past major historical events
What is Judgment and How is it Assessed?

- Ability to make appropriate plans and decisions
- Best addressed by asking about future plans
  - What will you do when you are discharged?
  - Where are you going to live, working at?
  - How are you going to support yourself?

What is Insight and How do you Evaluate it?

- Insight is the degree to which patient recognizes what is going on
  - Do you understand the implications of poor adherence to therapy?
  - Can you discuss options for treatment
Content of Thought: How is it Defined?

• What patient is actually thinking about, what is inside his or her head
  – Delusions
  – Hallucinations

Form of Thought: How is it Defined?

• Form of thought is the way in which a person thinks and then gets it across to people
  – Logical, coherent
  – Flight of ideas
    • Rapid shifting of topics with a connection between them, seen in mania
  – Tangential
    • Goes off topic and never reaches a point
Case Studies of Tuberculosis and Mental Illness

Agenda: Four Case Studies of Tuberculosis and Mental Illness

• #1 Post partum female with TB, substance abuse and bipolar disorder
• #2 Pt. with bipolar and antisocial personality disorders, violent behavior
• #3 Pt. with schizophrenia and TB who refused TB medications, blood work and sputum samples
• #4 Pt. diagnosed with TB while court order at the mental hospital with schizophrenia
Case #1: Medical History

26y/o Caucasian, homeless female with
   History of bipolar disorder
   Off psychotropic medications for 2 years

Reported personality changes since age 20

Used crack, cocaine, ETOH every day for
   18 months prior to TCID hospitalization

Delivered a healthy baby prior to
   admission

Case #1: Other Information from
Medical History

• Complained of fever, cough, anorexia, weight loss during last trimester of pregnancy

• CXR post partum RUL cavitary infiltrates

• Diagnosed with pan susceptible TB few days after delivery
Case #1: Reason for TCID Admission

- Admitted to TCID for TB treatment in the setting of:
  - Homelessness
  - Untreated mental illness
  - Substance abuse

Case #1: Mental Status Assessment

- Reported episodes of:
  - Depression, tearful, low energy alternating with
  - Spending money
  - Irrational optimism

- Groomed, cooperative, high kinetics

- Speech: pressure, hyper verbal

- Mood: anxious
Case #1: Diagnosis and Treatment

- Diagnosed with bipolar disorder, untreated
- Required psychiatric evaluations and medication adjustments throughout hospitalization
- Started on depakote ER as mood stabilizer to prevent mania/depression
- Required depakote serum levels & doses adjusted accordingly
- Actively involved in substance abuse treatment, AA meetings since hospital admission

Case #1: Response to Treatment

- Sobered during hospitalization
- Successfully completed in-patient TB treatment
- Intended to remain sober after hospital discharge
- Mood swings resolved and gained 40 lbs
- Good adherence to TB and psychiatric treatment
What Is Bipolar Disorder?

- Mood disorder characterized by mood swings from mania to depression, which have a tendency to recur and subside spontaneously
- Mood swings may be cyclic, often starting with mania that ends in deep depression

Diagnosis: Bipolar Disorder

- Psychiatric history of mood swings
- Obtaining information from family members regarding patient’s behavior
- Observation of current behavior and mood are critical in diagnosing this disorder
- Physical exam and lab tests
  - Thyroid function test
  - Drug screen
Symptoms of Manic Phase

- Excessive irresponsible behavior pattern
- Excessive involvement in pleasurable activities with painful consequences
  - Spending, unsafe sex with multiple partners, alcohol and drugs

Symptoms of Depressive Phase

- Prolonged sadness
- Significant changes in appetite and sleep patterns
- Irritability, anger, worry, agitation, anxiety
- Pessimism, indifference
- Recurrent thoughts of death and suicide
- No pleasure in activities enjoyed previously
Treatment: Bipolar Disorder

- May require Hospitalization
  - Control symptoms
  - Safety of the patient
- Mainstay of treatment
  - Mood-stabilizing medications
    - Valproic acid, lithium, carbamazepine
    - Effective for
      » Manic and depressive phases
      » Effective in preventing recurrence
  - Psychotherapy

Bipolar Disorder: Prognosis and Complications

- Patients often stop psychotropic medications as soon as they feel better
- Suicide in both phases: manic & depressive
- High risk of substance abuse
- Disruption of relationships, work and finances
The Association Between Alcohol Use and TB

- Strong association between heavy ETOH use and TB
- ETOH weakens the immune system and increases TB risk
- Heavy ETOH use linked to higher
  - Reinfection rate
  - Treatment defaults
  - Development of drug resistant TB

Case #2: Medical History

- 38 y/o male of Vietnamese descent
- History of cirrhosis, hepatitis B, C, newly diagnosed with AIDS CD4:442, HIV RNA 130.000
- Substance abuse:
  - Street drugs: Started at 10y/o regular user of marijuana, speed, IV cocaine
  - Tobacco: 2 packs a day
- Legal: 18 years in penitentiary for 9-10 robberies
- Post traumatic stress, abuse, rape
  - Physical and emotional: abused by mother and brothers
  - Sexual: “Mom gave me off to a gay drug dealer
  - Worked as a prostitute in Las Vegas, started 15y/o
Case #2: Complications During Hospitalization

- Admitted to TCID for TB treatment under court order
- Patient became increasingly agitated over time with inpatient treatment
- Refused to talk to psychiatrist
- Refused all Seroquel doses prescribed but took all TB medications
- Became increasingly combative, violent, and disruptive with other patients and staff
- Refused to sleep for four days and discussed escape plans

Case #2: Escalating Aggressive Behavior

- Threatening, cursing staff and patients
- Was hitting walls, destroyed four glass monitors and six alcohol dispensers
- Pushed 2 staff members and slapped 2 pts
- Kept insisting he was not crazy
- Pts and staff were horrified
Case #2: Other Complications During Hospitalization

- Patient attempted to escape by jumping from the second floor (about 15 ft)
- Patient ran away but security caught him
- Minutes later he assaulted a patient by removing his glasses and crushing them under his feet

Case #2: Diagnosis and Management

- Bipolar, antisocial and borderline personality disorders uncontrolled
- Placed on 1:1 supervision
- Contacted security, police, and San Antonio State Hospital (SASH) director
- Patient was sent on furlough to mental hospital for 2 weeks
- Required physical restraints at Psych Hospital, IM medication was given
Case #2: Returned to TCID after 2 weeks at SASH

- Wrote an apology letter
- Was sorry for his bad behavior
- Apologized to patient for breaking his glasses and promised to replace them
- Behavior was appropriate and respectful
- Took his TB and psychotropic medication (risperdol)

Antisocial Personality Disorder
(Sociopathy)

- Is a chronic mental illness in which a person’s way of thinking, perceiving situations and relating to others are abnormal and destructive
- Symptoms
  - Recurring difficulties with the law, incarceration
  - Stealing, bullying
  - Aggressive or violent behavior
  - Persistent lying, social isolation
  - Lack of remorse about harming others
  - Have drug and alcohol problems
  - Irresponsible behavior with family, work, school
  - Often refused treatment
Treatment of Antisocial Personality Disorder

- Psychotherapy
- Stress and anger management skills
- No Specific medications for this disorder
- Medications to treat associative symptoms
  - Mood stabilizers
  - Antidepressants
  - Anti-anxiety
  - Antipsychotic

Common Mental Disorders (CMD) in TB/HIV Co-Infected Patients in Ethiopia

- CMD were more common among TB/HIV co-infected pts (63.7%) than the non co-infected patients (46.7%)
- CMD were more common among individuals without income as compared to individuals with income
- Screening and treating CMD should be part of TB/HIV programs
Case #3: Medical History

- 55 y/o white male with schizophrenia
- Residing at boarding home in Medina County, site of a recent TB outbreak
- 70 pts newly diagnosed with LTBI, 4 TB suspects, 2 active cases (treated at TCID)
- Positive TST, cavitary infiltrates on CXR, sputum AFB smears and cultures were positive for mtb, pan susceptible

Case #3: Medical History

- Started on RIPE as outpatient
- Refused ALL TB medication doses for 6 weeks as outpatient
- Admitted to TCID under court order for TB treatment due to poor compliance
Case #3: Mental Status Assessment

• Very delusional
  – false fixed beliefs

• Delusions varied in nature
  – Grandiose
    • Having special powers
  – Paranoid
    • Being poisoned by medications
    • People Stealing his ideas and working with CIA on plot to kill him

Case #3: Other Information Obtained from Mental Status Assessment

• Speech: hyper verbal, high volume

• Mood: mildly elevated

• No suicidal or homicidal ideation

• Poor attention span
Case #3: Psychiatric Diagnosis and Treatment

- Chronic schizophrenia, psychosis
- Unlikely to become substantially less psychotic given long illness and poor compliance issues
- Required 3 psychiatric evaluations during 1st month at TCID with medication adjustments

Case #3: Hospital Course: Complications

- Refused multiple times
  - CXR - Medications
  - Blood draws - Sputum collection
- Statements often made by patient
  - “You are killing me with so many pills”
  - “I do not have TB”
  - “I will get bruises, gangrene if I give blood”
  - “I will get lung cancer and brain cancer if I get a CXR”
  - “You are putting LSD on the food”
Case #3: TB Treatment Complications

- AST, ALT 14 times above normal
  - After taking rifampin, PZA, INH for 8 weeks
  - Refused monthly blood work for 2 months

- Was treated with a liver friendly regimen
  - IM amikacin, levofloxacin and ethambutol for 5 months

- Never had a CXR done during 10 months hospitalization at TCID
  - Refused monthly CXR

Case #3 Complications TB Treatment

- Nurses offered TB meds multiple times until he finally took them

- Refused sputum samples first 3 hospital months

- Had to call Security on several occasions
  - Before blood draws
  - IM injections to support staff
Case #3: TB Treatment Outcome

- With time, patient became more compliant with TB medications, procedures
  - Giving sputum, blood samples

- Remained delusional throughout hospitalization

- Completed in-patient TB treatment successfully

What is Schizophrenia?

- Chronic, severe disorder involving
  - Recurrent psychosis
  - Long term deterioration in functional capacity

- Interferes with the person’s ability to
  - Distinguish fantasy from reality
  - Manage emotions, make decisions

- Symptoms
  - Delusions and hallucinations
  - Decreased ability to begin, plan and maintain work and study
What are Delusions?

• Fixed false beliefs held with high level of conviction
  • “My wife is poisoning me with the food”
  • “The aliens took my brain”

Hallucinations: Definition and Examples

• Hallucinations are misperceptions without any external sensory stimuli
  – Alone in the room and you see a ghost
  – No external sounds but you hear something
  – Nothing in the air but you smell something
  – Nothing in your mouth and you taste something
  – Nothing on your skin but you feel something
Types of Hallucinations

- Auditory = Psychotic disorder
  - 2/3 of schizophrenic hallucinations
- Visual = Drugs
  - 1/3 of schizophrenic hallucinations
- Tactile = Drugs
  - cocaine intoxication
  - Alcohol detoxification
- Olfactory = Seizure disorder
  - Usually foul smelling things like burning rubber

Schizophrenia
INH Resistant TB in a 27 y/o Male with Schizophrenia

- 27 y/o male with schizophrenia on risperidone
- History of positive TST and Quantiferon, normal CXR in 2009 while in jail, no documentation of LTBI Rx
- Developed cough, while court order at SASH, CXR 12/2/2010 LUL cavity
- AFB smears x 3 neg, thought to have LTBI despite abnormal CXR, started on INH monotherapy
- 12/13/10 CXR worsening thick walled cavity
TB Diagnosis

- BAL 12/14/10 showed granuloma, AFB smear neg, culture and DNA probe positive for mtb
- Patient was started on RIPE
- Patient continued having hallucinations, risperidone dose was increased
- Be aware of drug drug interactions between rifampin and psychotropic medications
- Consider to increase dose of psychothropic medications or to treat patient with rifabutin to decrease drug interaction

Rifampin, a cytochrome P450 3A inducer, decreases plasma concentration of antipsychotic risperidone in healthy volunteers

- Co-administration of risperidone and rifampin was associated with a significative decrease in risperidone maximal concentration (Cmax) of 50%

Conclusions

• Every TB patient needs a good mental status assessment

• Patients with abnormal findings on the MSE should be referred for psych evaluation

• Psychiatric diagnosis requires completely integrating the patient’s psychiatric, medical history, laboratory and the findings of the MSE

• Failure to diagnose and treat mental illness leads to poor adherence and TB treatment failure

Conclusions

• Mental illness leads to unemployment, substance abuse, homelessness and TB

• Hospitalization often required to successfully treat patients with mental illness and TB

• Be aware of drug-drug interactions between rifampin and psychotropic medications

• Safety of patient and people around is a priority

• Don’t take what is said by patient personally
Recommended Movies

- On the Lake
  - Life and love in a distant place tells the true story of the tb epidemic in America in the 1900s. Touches the emotional aspects of TB
- Infinity
  - A love affair to remember between a physicist and a beautiful woman in 1941 with TB
- A Beautiful Mind
  - Price paid by pts. with schizophrenia and the toll it takes on families.

Thank You
Case #1: Medical History

- 48y/o Caucasian man
  - AIDS - HCV
  - Seizure disorder - Several head injuries post assault
- Reported personality changes since 1999
- History of cocaine and alcohol dependence, IVDU methamphetamine use
  - Also drinking heavily when depressed

Case #1: TB Treatment Complications

- Diagnosed with PTB

- TB Treatment complications
  - Elevated liver function test
  - Multiple drug-drug interactions
Case #1: Other Treatment Complications

• Several TB treatment interruptions due to drug induced hepatitis

• Treated by primary care provider for anxiety and insomnia
  – Xanax and trazodone

Case #1: Mental Status Assessment on Admission to TCID

• Anxious with mood swings
  – Including long episodes of depression
  – Periods of insomnia

• Other findings
  – Rapid thoughts
  – Poor attention span
  – Pushy, poor impulse control
    • $100k credit card debt and filed bankruptcy

• Had history of prior suicide attempt
Case #1: Other Findings From Mental Status Assessment

- **Appearance**
  - Groomed, high kinetics, cooperative

- **Speech:**
  - Very rapid
  - Quite hyper verbal
  - Flight of ideas
  - Difficult to obtain a clear history from

- **Mood:** anxious

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Case #1: Psych Diagnosis and Treatment

- Diagnosed with bipolar disorder

- Discontinued Xanax and trazodone
  - Trazodone could precipitate mania

- Initiated Zyprexa as mood stabilizer
  - Less interaction with some of his medications
Case #1: Response to Treatment

- Became
  - Less anxious
  - Normal speech
  - Happier
  - Calmer
  - No flight of ideas

- Insomnia resolved

- Weight gain
  - 12 lbs in six weeks

- Decrease Impulsivity

Case #1: Other Treatment Outcomes

- Able to make better choices life and health wise

- Good compliance with TB and medical treatment

- Better judgment

- No alcohol or substance abuse incidents
How to screen for Depression: 
Two-Item Screening Tool

• During past month
  
  – Have you felt down, depressed or hopeless?
  
  – Have you felt little interest or pleasure in doing things?

Treatment of Depression

• Psychotherapy

• Antidepressants
  
  – Tricyclic antidepressants

  – Serotonin reuptake inhibitors (SSRIs)
    • Fluoxetine, sertraline, paroxetine

  – Inhibitors of reuptake of both serotonin and norepinephrine (SNRIs)
    • Duloxetine, venlafaxine, mirtazapine
Case #4: Medical History

• 30 y/o Hispanic male, alcohol dependent, admitted to TCID for recurrent PTB

• Treated for TB for 9 months 4 years prior

• History of alcohol related seizures, withdrawal, delirium

• Had severe anorexia, generalized weakness, malnourished

Case #4: Mental Status Evaluation

• Cachectic, alert, oriented x 3

• Denied sadness, crying spells, suicidal ideation

• Severe anorexia

• Anhedonia
  – No pleasure on activities enjoyed previously
Case #4: Hospital Course

- Lost 8 lb (wt down from 100 to 92 lb) during first 2 hospital months
- Disliked hospital food and refused to eat it
- Refused to get out of the room
- Kept the room dark
- Was very quiet

Case #4: Diagnosis and Treatment

- Major Depression
- Alcohol dependence
- Mirtazapine 30 mg PO daily
Case #4: Response to Treatment

- Appetite improved, gained about 25 lb
- Became more active
- Interacted more with patients and staff
  - Asked the staff “How are you doing today?”
- Looked happier
- Better understanding of
  - Disease process and
  - Importance of TB treatment compliance