



St. Vincent's Hospital, Melbourne
Australia



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TB in the patient with Opioid Use Disorder

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Tuberculosis

Tuberculosis is an infection caused by *mycobacterium tuberculosis* bacteria

Typically affects the lungs, but can be present in other body systems

Symptoms include: cough, haemoptysis, fevers, night sweats, weight loss

Transmission: coughing, spitting, sneezing with ACTIVE TB. Latent TB does not spread disease

Prevalence: worldwide estimated $\frac{1}{4}$ of the population has latent TB, approx. 1% infection rate per year. Primarily found in India, China, Indonesia, Philippines, Pakistan, Nigeria and Bangladesh

Tuberculosis

Risk factors:

HIV positivity

Medications that lower immune response (corticosteroids, anti α TNF mabs)

Alcohol use disorder

Diabetes

Silicosis

Tobacco smoking

Malnutrition

Substance use disorders

Severe renal disease

Low body weight

Organ transplant

Tuberculosis

Diagnosis is done based on symptoms initially – consider in those with symptoms lasting more than 2 weeks

Definitive testing:

- clinical sample culture – can take up to 6 weeks to grow
- Chest X-ray
- Sputum cultures for acid fast bacilli
- Quantiferon gold test can help – does not distinguish between active and latent
- Tuberculin skin test – does not distinguish at all



Tuberculosis

Risk mitigation

Public health messaging

Vaccination

- BCG vaccine – used in many countries
- Reduces risk of becoming infected by 20%
- Reduces risk of activation of infection by 60%

Treatment



Varies depending on Latent or Active status

Latent:

Isoniazid or rifampicin only or a combination

Treated for 3-9 months depending on medications

Active:

Combination antibiotics to reduce risk of resistance

- Rifampicin
- Isoniazide
- Pyrazinamide
- Ethambutol

All four for 2 months then R/I for further 4 months is typical pattern



Treatment Considerations

Treating Latent TB may not be required

Consider likelihood of transformation to active TB

Risk factors for person with TB

Risks of side effects from treatment

Adherence considerations

Drug-drug interactions for person

Opioid dependence



Chronic opioid use results in immune suppression

IV opioid users are often in higher risk settings

Co-infection with HIV possible and increases risk of TB

Larger proportion of homelessness

Higher risk behaviours

Less access to healthcare – patient based and system based

Delay in diagnosis

Adherence to treatment

OAT implications

Rifampicin is metabolised in the liver

Induces the CYP-450 system – increasing activity

Methadone – metabolised in the liver via p450 system

Rifampicin reduces plasma concentration of methadone resulting in withdrawal symptoms

Induction of p450 system typically takes between 3-5 days

Methadone dose will need to be increased – between 30-50% increases are common

Must consider methadone reduction approximately 1 week before ceasing rifampicin as well

Suboxone – less affected due to mechanism of metabolism