TB

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TB

- kills > 3 million /year
- getting worse (eg OI with HIV)
- DOTS has improved cure rates
- continuing danger of MDRTB

It is crucial
that no patient receives monotherapy!

TB

- Successful TB management depends mostly on organisation including record keeping!
- Records: Diagnosis, admission, Tx regime, Tx plans, drug distribution plans, records of pats' collection, DOTS plan, swallowing, follow-up lab results, final cure or not ……….
- Creative approaches to finding defaulters & maintaining compliance/adherence
- Reliable supply of drugs !!

Pulmonary TB drugs

- streptomycin (S) - bactericidal - should not be used in pregnant women
- thiacetazone (T) - bacteriostatic - do not use in HIV +ve patients
- isoniazid (H) - bactericidal
- rifampicin (R) - bactericidal
- pyrazinamide (Z) - bactericidal
- ethambutol (E) - bacteriostatic

Recommended Treatment Regimens Category I (new patients)

1. **Intensive Phase**

   isoniazid + rifampicin + pyrazinamide + ethambutol (or streptomycin) ***2 months***

2. If ***sputum-negative***….**Continuation Phase**

   isoniazid + rifampicin three times weekly ***4 months***

3. **if positive**, continue Intensive Phase for one month, then Continuation Phase ***for 4 months*** (total 7 months)

Relapse and Treatment Failures

1. Three month Intensive Phase, plus streptomycin for 2 months

2. When smear-negative, Continuation Phase for 5 months

- **Total treatment, at least 8 months**

Key Factors in Effective TB Control Program

- **Focus on diagnosis and treatment of sputum-positive cases**
- **Ensure treatment compliance**
  - directly observed by community health workers
  - hospitalisation not beneficial
  - patient and/or community contracts - team work
  - incentives (eg, food supplements)
- **Good registration and records (patient-held and clinic-based)**
- **Community education, diminish stigmatisation**
- **Avoid resistance**
  - (? fixed dose drug combinations/blister packs)

International Costs of TB drugs

- **ethambutol 400 mg** **$US - 2 cents** *(cost in Oz - A$ 78 cents)*
- **pyrazinamide 500 mg** **$US - 3 cents** *(cost in Oz - A$ 67 cents)*
- **rifampicin 300 mg + isoniazid 100 mg** **$US - 4 cents**

  (rifampicin 150 mg cost in Oz - A$ 28 cents)
- **isoniazid 300 mg** **$US - 0.7 cents**
- **Streptomycin 1G vial** **$US - 7 cents**

  (in Oz - seems unavailable)

6 months 4 drug Tx costs ~~ $US 11 using international sources

(In Oz = $1000s)

4 drug fixed dose combinations for TB

- ***Pros***
  - simplifies storage and handling
  - only 1 expiry date
  - lower shipping costs
  - simpler dosage - improved compliance 3 or 4 tabs from 1 bottle compared to 10 or 12 tablets from 4 bottles
  - DOTS much easier!
  - Monotherapy impossible!!
  - Risk of MDRTB less !!!
- ***Cons***
  - cost
  - quality control
  - allergy
  - can't adjust dose of one drug

Drug treatment for TB

- appropriate combination of drugs
- correct doses of drugs
- correct frequency of treatment
- correct duration of treatment (at least 6 mths)
- free treatment
- reliable supply of drugs - no stock-outs!!

Managing drug treatment for TB

- Essential drugs programs (pharmacy staff) exist in most countries and have expertise in these processes. This expertise is often not used.
- TB management might be run by TB programs etc
- (Similarly HIV - programs might be run by NGOs or HIV programs)

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Important points

- TB can be cured! But must be diagnosed and treated properly

- TB drugs must only be obtained from the TB program which ideally is part of the PHC and essential drugs program

- Complete and regular medication and follow-up tests are needed. Arrangements must be in place to follow-up patients who don't turn up for more medication

Important points

- TB is common as a co-infection with HIV infection because of the compromised immune system. A person can be very ill with TB/HIV. If the TB is treated, and it can be treated and can be cured, the patient can gain a new lease on life

- Resistance should be avoided because the range of drugs to treat TB is limited

What about TB treatment for refugees?

- **Principles**
  - ➢ **Situation must be stable – population stable with mortality rate < 1/10,000/day**
  - ➢ **Population must be stable – likely to stay around for 9 months**
  - ➢ **Reliable and continuous supply of adequate drugs and medical/lab supplies must be sure**
  - ➢ **Health staff must be well trained and able to cope with all levels of TB management**

TB management 1

Activity	Response	Documentation	Involve:
Case finding - Patient in community	Make contact	Record	Community health service /CHW
Lab (3 sputums)	Test results	Records +ve Or-ve	Lab in community or at referralevel
If +ve confirmDiagnosis	Decide on treatment	Record diagnosis (this record goes to the national or regional register) Record Treatment prescribed	Health professional specified in TB program (Dr or?) Pharmacist/dispenser
Prescribe medication forintensive phase	Explain to patient about treatment, decided on schedule for collecting medcation etc	Recordmedication prescribed ?Make contract with pat. that s/he understands, willadhere to treatment (Use creative ideas) Record decided process	Dr, dispenser, community worker and patientt

TB management 2

Activity	Response	Documentation	Involve
Provide medication		Record medication supplied	Dispense r at TB dispensary or PHC pharmacy or É ..
Swallow medication		Record swallowing for patient and for DOTS supervisor	Patient and DOTS supervisor
Patient return for more medication		Record	TB dispensary or ?? ??
Patient return for follow-up tests	? something wrong ? Decide what to do	Record	Dr or TB health professional
Prescribe medication for maintenance phase	Discuss arrangements for collecting medication	Record	TB Special health professional, dispensary consult with community support
At end of maintenance phase return for tests	Lab	Record Share records with all Cure Rate!	Lab and TB health professional