What is Latent TB infection?

Not everyone who is infected with Tuberculosis (TB) immediately develops TB disease. Some people go on to have a dormant form of TB that can be reactivated over time or when the immune system is suppressed. This form is called (latent) TB infection (LTBI), and treating it can prevent the person from getting active TB.

Overview of TB transmission

STAGE 1:
Exposure
TB Bacilli are inhaled into the lungs of a healthy person via droplets sneezed, coughed or spat by another PERSON WHO IS ILL WITH TB

STAGE 2:
TB Bacilli are recognised as invaders and are contained by the healthy immune system (white blood cells - including CD4 CELLS)
This is known as LATENT TB OR TB INFECTION

STAGE 3:
Immune system unable to contain the TB BACILLI which escapes into the rest of the lungs - and possibly other parts of the body causing disease. This is known as ACTIVE TB
Is treatment of TB infection effective?

Strong evidence shows that the treatment of latent TB infection (with isoniazid or rifampicin monotherapy, or in combination with other drugs) is effective in preventing progression to active disease in adults and children. There were an estimated 10 million new cases of tuberculosis (TB) and around 1.6 million deaths attributable to TB in 2017. The World Health Organisation (WHO) has set ambitious targets for reducing TB incidence and mortality in the next 10–20 years, with an aim to eliminating TB by 2035. Elimination of TB, however, cannot be considered without discussion of TB infection, its diagnosis and treatment. 1.7 billion people are estimated to have TB infection and are at risk of developing TB in their lifetime.

Is 3HP superior to other TB prevention therapy interventions other than isoniazid?

In the few studies where 3HP has been compared with other shortened regimens such as a four month regimen of rifampicin with or without isoniazid, there has been no difference in clinical effectiveness.

Is 3HP superior to isoniazid monotherapy (IPT)?

There is no evidence that 3HP is more effective than IPT, but studies have shown 3HP to be equivalent to isoniazid in preventing progression to active disease. There is evidence, however, to show that 3HP is less toxic to the liver than isoniazid-based regimens. However, the risk of drug reactions is increased among those taking 3HP, but these are less likely to lead to discontinuation.

Is 3HP cost-effective?

Most studies have found 3HP to be expensive in the short-term, primarily because of the current cost of rifapentine, but the shorter duration of treatment and higher rates of treatment completion can make it more cost-effective in the long-term.

What is 3HP?

3HP is a short-course Tuberculosis Preventive Treatment (TPT) regimen which is endorsed by the WHO. It combines high dose isoniazid and high dose rifapentine weekly for three months. 3HP is associated with significantly lower hepatotoxicity and higher rates of treatment completion than isoniazid preventive treatment.

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