



## Note on Medical Uses of Isoniazid

G A Ellard\*

Medicine Staff Office, US Food and Drug Administration, Rockville, Maryland, USA

### Description

Isoniazid, also referred as Isonicotinic Acid Hydrazide (INH), is an antibiotic used to treat tuberculosis. It's frequently used with rifampicin, pyrazinamide, and either streptomycin or ethambutol for active tuberculosis. It is frequently used alone to treat latent tuberculosis. It can also be used to treat atypical mycobacteria such *M. avium*, *M. kansasii*, and *M. xenopi*. It's normally taken by mouth, but it can also be given as a muscle injection.

### Tuberculosis

Isoniazid is commonly used to treat tuberculosis infections, both latent and active. When people with isoniazid-sensitive Mycobacterium TB infection follow the prescribed treatment, isoniazid-based medication regimens are frequently effective. Drug regimens based on isoniazid, on the other hand, have a significant failure rate in people with isoniazid-resistant *Mycobacterium tuberculosis* infection.

For certain populations, isoniazid has been licenced as a preventive treatment. Such like HIV patients with a PPD (Purified Protein Derivative) response of at least 5 mm induration; contacts with tuberculosis patients who have a PPD reaction with induration of at least 5 mm; people whose PPD reactions change from negative to positive over the course of two years for at least 10 mm induration for those under 35, and at least 15 mm induration for those over 35; People who have a PPD reaction of at least 5 mm induration and have pulmonary damage on their chest X-ray that is likely attributable to cured tuberculosis. For the treatment of latent tuberculosis, isoniazid

### ARTICLE HISTORY

Received: 04-Apr-2022, Manuscript No. AJPMPH-22-62810;  
Editor assigned: 06-Apr-2022, PreQC No. AJPMPH-22-62810(PQ);  
Reviewed: 21-Apr-2022, QC No AJPMPH-22-62810;  
Revised: 26-Apr-2022, Manuscript No. AJPMPH-22-62810(R);  
Published: 03-May-2022

can be used alone or in combination with Rifampin, or as part of a four-drug regimen for the treatment of active tuberculosis. The medicine is usually taken orally once a day or once a week for three to nine months, usually under the supervision of Directly Observed Therapy (DOT).

### Non-tuberculous mycobacteria

As part of a therapy regimen that included rifampicin and ethambutol, isoniazid was widely utilised in the treatment of *Mycobacterium avium* complex. Isoniazid appears to block mycolic acid formation in *M. avium* complex in the same way that it does in *M. tuberculosis*, and while it is not bactericidal against *M. avium* complex, it considerably enhances the impact of rifampicin. The introduction of macrolides resulted in a significant reduction in its use. However, because rifampicin is commonly under dosed in the treatment of *M. avium* complex, this impact may be worth revisiting.

### Special populations

Isoniazid is suggested for women who have active TB and are pregnant or breastfeeding. Preventive therapy should be postponed until after the baby is born. Nursing mothers excrete a tiny and non-toxic amount of INH in their breast milk, and their kids are unlikely to have any negative consequences. To reduce the risk of peripheral nerve injury, both pregnant women and infant's breastfed by mothers taking INH should take vitamin B6 in its pyridoxine form. In persons with a risk factor, such as pregnancy, lactation, HIV infection, alcoholism, diabetes, renal failure, or malnutrition, vitamin B6 is admin-

istered to prevent isoniazid-induced B6 shortage and neuropathy. People with liver disease are more susceptible to INH-induced hepatitis and may require a lower dose. Daily alcohol drinkers, pregnant women, IV drug users, those over 35, and those with chronic

liver disease, severe renal failure, peripheral neuropathy, or HIV infection should have their liver enzymes monitored frequently since they are more prone to develop hepatitis from INH.