

THIAMINE HCl PYRIDOXINE HCl CYANOCOBALAMIN

POLYNERV™ 500

500 mg/250 mg/1 mg Film-Coated Tablet

VITAMIN

FORMULATION:

Each film-coated tablet contains:

Thiamine Hydrochloride (Vitamin B1)	500 mg
Pyridoxine Hydrochloride (Vitamin B6)	250 mg
Cyanocobalamin (Vitamin B12)	1 mg (eq. to 1000 mcg)

PRODUCT DESCRIPTION:

Vitamins B1, B6, B12 (POLYNERV™ 500) tablet is coated with a soluble film integument which masks the unpleasant tastes of its constituted ingredients. Moreover, this film coat protects its active components from possible loss of potency caused by light and other factors in the atmosphere.

Vitamins B1, B6, B12 (POLYNERV™ 500) tablet is a high potency formulation of the neurotrophic vitamins B1, B6, B12. This fortified combination of B vitamins, is a valuable adjuvant in the comprehensive management of neural disorders and certain diseases associated with painful neurologic manifestations. Polynerv 500 tablet supplies high doses of B1, B6 and B12 that promptly replace B vitamins that are lost due to conditions that may lead to vitamin B deficiencies.

PHARMACODYNAMICS AND PHARMACOKINETICS:

The neurotrophic agents, Vitamins B1, B6, B12, activate specific biochemical pathways involved in nervous system physiology.

Thiamine (Vitamin B1) functions as coenzyme for glucose metabolism and ensures that energy is available for the vital organs of the body to do their work. Thiamine enhances production of energy from glucose and storage of energy as fat, making energy available to support normal cellular processes. The smooth muscle cells of the heart, blood vessels and the secretory glands of the gastrointestinal tract depend on the energy derived from the metabolism of glucose. Thiamine (Vitamin B1) functions as a coenzyme, operating as a co-carboxylase in various reactions of glucose metabolism (e.g., decarboxylation of pyruvic acid and other alpha-keto acids for synthesis of ATP). Vitamin B1 helps improve muscle tone of the intestine, stomach, heart and blood vessels. Without sufficient energy, the muscles of the heart and blood vessel walls dilate leading to fluid accumulation. Deficiency of thiamine may result in certain abnormalities affecting the cardiovascular, gastrointestinal and nervous systems of the body.

Thiamine hydrochloride (Vitamin B1) is well absorbed from the gastrointestinal tract after oral doses, but the absorption of doses larger than about 5mg is limited. Thiamine is widely distributed to most body tissues, and appears in breast milk. Thiamine is mostly present as the disphosphate within the cell. Thiamine is not stored to any appreciable extent in the body and amounts in excess of the body's requirements are excreted in the urine unchanged or as metabolites.

Pyridoxine (Vitamin B6) participates in many cellular reactions of lipid and amino acid metabolism (e.g., transaminations and decarboxylation). The active form of B6, pyridoxal phosphate, acts as a coenzyme in several metabolic transformations of amino acids which are in turn needed for tissue building and in the synthesis of certain compounds (such as

neurotransmitters) and blood elements. Vitamin B6 is required in the synthesis of delta-aminolevulinic acid, the heme precursor necessary for the formation of hemoglobin molecule.

Pyridoxine (Vitamin B6) is readily absorbed from the gastrointestinal tract after oral doses and converted to the active forms pyridoxal phosphate and pyridoxamine phosphate. Pyridoxine is stored mainly in the liver where there is oxidation to 4-pyridoxic acid and other inactive metabolites which are excreted in the urine. As the dose increases, proportionally greater amounts are excreted unchanged in the urine. Pyridoxal crosses the placenta and is distributed into the breast milk.

Vitamins B1, B6, B12 (Polynerv™ 500) tablet contains high amounts of Cyanocobalamin (Vitamin B12). Cyanocobalamin functions as coenzyme involved in several metabolic pathways (e.g., conversion of methyl malonyl coA to succinyl coA and fatty acid synthesis). The most important action of vitamin B12 is to act as a coenzyme of nucleic acid metabolism, reducing ribonucleotides to deoxyribonucleotides, a step that is essential in the replication and formation of new cells. Vitamin B12 is also an important cofactor in the formation and maturation of red blood cells in the bone marrow. Deficiency of Vitamin B12 results in megaloblastic anemia.

Cyanocobalamin (Vitamin B12) binds to intrinsic factor, a glycoprotein secreted by the gastric mucosa and is then actively absorbed from the gastrointestinal tract. Absorption is impaired in patients with an absence of intrinsic factor, with a malabsorption syndrome or with disease or abnormality of the gut, or after gastrectomy. Absorption from the gastrointestinal tract can also occur by passive diffusion. Cyanocobalamin is extensively bound to specific plasma proteins called transcobalamins; transcobalamin II appears to be involved in the rapid transport of the cobalamins to tissues. Cyanocobalamin is stored in the liver, excreted in the bile and undergoes extensive enterohepatic recycling part of a dose is excreted in the urine. Vitamin B12 diffuses across the placenta and also appears in breast milk.

INDICATIONS:

For the treatment of Vitamin B deficiencies:

As nutritional support in the management of the following conditions:

- Painful neurological manifestations of neuritis and neuropathy such as cervical and shoulder arm syndrome, lumbago, ischialgia and sciatica.
- Neuropathies caused by certain disease states such as diabetes, rheumatoid arthritis, tuberculosis, leprosy, cardiac disorders.
- Alcoholic neuropathy and other neuropathies due to intoxication from drugs (e.g. INH, phenothiazine).
- Neuropathic changes during pregnancy and neuropathies due to hypermesis gravidarum.

DOSAGE AND ADMINISTRATION:

For therapeutic use, 2-4 tablets of Vitamins B1 + B6 + B12 (Polynerv 500) should be administered daily until acute symptoms subside. Chronic cases may require longer therapy.

For prophylactic administration when disease or drugs are likely to lead to neurological complications, the recommended dosage is 1-2 tablets daily. Or as prescribed by the physician.

CONTRAINDICATIONS/PRECAUTIONS/WARNINGS:

Contraindicated in patients with history of hypersensitivity to the components.

Patients who are hypersensitive to cyanocobalamin injections may be able to take oral cyanocobalamin.

If possible, Vitamin B12 should not be given to patients with suspected vitamin B12 deficiency without first confirming the diagnosis. Use of cyanocobalamin in doses greater than 10mcg daily may produce a hematological response in patients with folate deficiency. Indiscriminate use may mask the precise diagnosis. Conversely, folate may mask vitamin B12 deficiency. Regular monitoring of blood is advisable.

PREGNANCY AND LACTATION:

Vitamin B1, B6 and B12 can be given safely for pregnant and lactating women. Though some have expressed concern over inhibition of breast milk secretion by pyridoxine, others have cautioned that pyridoxine deficiency may cause seizures in the neonate.

ADVERSE DRUG REACTIONS:

Long-term use of large doses of pyridoxine is associated with the development of severe peripheral neuropathies.

Hypersensitivity reactions have occurred rarely with the use of cyanocobalamin. These include skin reactions such as rash, itching and anaphylaxis.

Other adverse effects reported with cyanocobalamin include gastrointestinal disturbances, fever, chills, hot flushing, dizziness, malaise, acne-form and bullous eruptions and tremor.

Cyanocobalamin should not be used for Leber's disease or tobacco amblyopia since these optic neuropathies may degenerate further.

DRUG INTERACTIONS:

Drugs that increase the requirements for pyridoxine include hydralazine, isoniazid, penicillamine and oral contraceptives. Pyridoxine reduces the activity of altretamine and decreases serum concentrations of phenobarbital and phenytoin. Neomycin, aminosalicylic acid, histamine-2 receptor antagonists, omeprazole, and colchicine may reduce the absorption of vitamin B12 from the gastrointestinal tract. Parenteral chloramphenicol may attenuate the effect of vitamin B12 in anemia.

OVERDOSE AND TREATMENT:

No cases of Vitamin B1 overdose have been reported.

Vitamin B6 overdose is rare. Two cases that caused central nervous system toxicity have been reported.

Overdose of Vitamin B12 is rare, too. Although an overdose is highly unlikely, call the doctor right away if you have any reason to suspect that one has occurred

AVAILABILITY:

Alu-alu blister pack x 10's (Box of 50's)

CAUTION:

Foods, Drugs, Devices and Cosmetics Act prohibits dispensing without prescription.

DR-XY9461

STORE AT TEMPERATURES NOT EXCEEDING 30°C.

PROTECT FROM LIGHT.

For suspected adverse drug reaction, report to the FDA: www.fda.gov.ph

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