Ivermec™
(Ivermectin)
Tablets U.S.P. 3mg 6mg

آئیورمیک ٹیبلٹس یو ایس پی۔
(آئیورمیکٹن) ۳ ملی گرام ۶ ملی گرام

QUALITATIVE AND QUANTITATIVE COMPOSITION
Ivermec Tablets U.S.P 3mg
Each tablet contains:
Ivermectin U.S.P.....3mg
Ivermec Tablets U.S.P 6mg
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DESCRIPTION: (Ivermectin) is a semisynthetic, anthelmintic agent for oral administration. Ivermectin is derived from the avermectins, a class of highly active broad-spectrum, anti-parasitic agents isolated from the fermentation products of *Streptomyces avermitilis.*
CLINICAL PHARMACOLOGY: Mechanism of Action: Ivermectin is a member of the avermectin class of broad-spectrum antiparasitic agents which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells. This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA). ***Pharmacodynamics:*** The selective activity of compounds of this class is attributable to the facts that some mammals do not have glutamate-gated chloride channels and that the avermectins have a low affinity for mammalian ligand-gated chloride channels. In addition, ivermectin does not readily cross the blood-brain barrier in humans. Ivermectin is active against various life-cycle stages of many but not all nematodes. It is active against the tissue microfilariae of *Onchocerca volvulus* but not against the adult form. Its activity against Strongyloides stercoralis is limited to the intestinal stages. ***Pharmacokinetics:*** Following oral administration of Ivermectin, plasma concentrations are approximately proportional to the Dose. Ivermectin is metabolized in the liver, and Ivermectin and/or its metabolites are excreted almost exclusively in the feces over an estimated 12 days, with less than 1% of the administered dose excreted in the urine. The plasma half-life of Ivermectin in man is approximately 18 hours following oral administration.
INDICATIONS AND USAGE: Ivermectin is indicated for the treatment of the following infections: Strongyloidiasis of the intestinal tract. Ivermectin is indicated for the treatment of intestinal (i.e., nondisseminated) strongyloidiasis due to the nematode parasite *Strongyloides stercoralis*. Onchocerciasis. Ivermec is indicated for the treatment of onchocerciasis due to the nematode parasite *Onchocerca volvulus*. **NOTE:** Ivermectin has no activity against adult *Onchocerca volvulus* parasites. The adult parasites reside in subcutaneous nodules which are infrequently palpable. Surgical excision of these nodules (nodulectomy) may be considered in the management of patients with onchocerciasis, since this procedure will eliminate the microfilariae-producing adult parasites. **CONTRAINDICATIONS:** Ivermectin is contraindicated in patients who are hypersensitive to any component of this product.
INTERACTIONS: Drug Interactions Post-marketing reports of increased INR (International Normalized Ratio) have been rarely reported when ivermectin was co-administered with warfarin.

USE IN SPECIFIC POPULATION
Pregnancy, Teratogenic Effects
Pregnancy Category C: There are no adequate and well-controlled studies in pregnant women. Ivermectin should not be used during pregnancy since safety in pregnancy has not been established. ***Nursing Mothers:*** Ivermectin is excreted in human milk in low concentrations. Treatment of mothers who intend to breastfeed should only be undertaken when the risk of delayed treatment to the mother outweighs the possible risk to the newborn. ***Pediatric Use:*** Safety and effectiveness in pediatric patients weighing less than 15 kg have not been established. ***Geriatric Use:*** In general, treatment of an elderly patient should be cautious, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy. ***Strongyloidiasis in Immunocompromised Hosts:*** In immunocompromised (including HIV-infected) patients being treated for intestinal strongyloidiasis, repeated courses of therapy may be required. Several treatments, i.e., at 2-week intervals, may be required, and cure may not be achievable. Control of extra-intestinal strongyloidiasis in these patients is difficult, and suppressive therapy, i.e., once per month, may be helpful.
WARNINGS AND PRECAUTIONS: Microfilaricidal drugs, such as diethylcarbamazine citrate (DEC-C), might cause cutaneous and/or systemic reactions of varying severity (the Mazzotti reaction) and ophthalmological reactions in patients with onchocerciasis. These reactions are probably due to allergic and inflammatory responses to the death of microfilariae. Patients treated with Ivermectin for onchocerciasis may experience these reactions in addition to clinical adverse reactions possibly, probably, or definitely related to the drug itself. Oral hydration, recumbency, intravenous normal saline, and/or parenteral corticosteroids have been used to treat postural hypotension. Antihistamines and/or aspirin have been used for most mild to moderate cases. ***General:*** After treatment with microfilaricidal drugs, patients with hyperreactive onchodermatitis (sowda) may be more likely than others to experience severe adverse reactions, especially edema and aggravation of onchodermatitis. Rarely, patients with onchocerciasis who are also heavily infected with Loa loa may develop a serious or even fatal encephalopathy either spontaneously or following treatment with an effective microfilaricide. In these patients, the following adverse experiences have also been reported: pain (including neck and back pain), red eye, conjunctival hemorrhage, dyspnea, urinary and/or fecal incontinence, difficulty in standing/walking, mental status changes, confusion, lethargy, stupor, seizures, or coma. This syndrome has been seen very rarely following the use of ivermectin. In individuals who warrant treatment with ivermectin for any reason and have had significant exposure to Loa loa-endemic areas of West or Central Africa, pretreatment assessment for loiasis and careful post-treatment follow-up should be implemented. ***Strongyloidiasis:*** The patient should be reminded of the need for repeated stool examinations to document clearance of infection with Strongyloides stercoralis. ***Onchocerciasis:*** The patient should be reminded that treatment with Ivermec does not kill the adult Onchocerca parasites, and therefore repeated follow-up and retreatment is usually required. Carcinogenesis, Mutagenesis, Impairment of Fertility Long-term studies have not been performed to evaluate the carcinogenic potential of Ivermectin. Ivermectin was not genotoxic in vitro in the Ames microbial mutagenicity assay of Salmonella typhimurium strains TA1535, TA1537, TA98, and TA100 with and without rat liver enzyme activation, the Mouse Lymphoma Cell Line L5178Y (cytotoxicity and mutagenicity) assays, or the unscheduled DNA synthesis assay in human fibroblasts.
Ivermectin had no adverse effects on the fertility in rats in studies at repeated doses of up to 3 times the maximum recommended human dose of 200 mcg/kg (on a mg/m2/day basis).

ADVERSE REACTIONS: The following are the adverse reactions Strongyloidiasis
The following adverse reactions were reported as possibly, probably, or definitely related to ***Ivermectin:*** Body as a Whole: asthenia/fatigue, abdominal pain, Gastrointestinal: anorexia, constipation, diarrhea, nausea, vomiting Nervous System/Psychiatric: dizziness, somnolence, vertigo, tremor. ***Skin:***

pruritus, rash, and urticaria. Patients treated with Ivermectin experienced more abdominal distention and chest discomfort than patients treated with albendazole. However, Ivermectin was better tolerated than thiabendazole in comparative studies involving patients treated with thiabendazole. The Mazzotti-type and ophthalmologic reactions associated with the treatment of onchocerciasis or the disease itself would not be expected to occur in strongyloidiasis patients treated with Ivermectin. ***Laboratory Test Findings:*** The following laboratory abnormalities were reported regardless of drug relationship: elevation in ALT and/or AST ,decrease in leukocyte count. ***Onchocerciasis:*** arthralgia/synovitis, axillary lymph node enlargement and tenderness, cervical lymph node enlargement and tenderness, inguinal lymph node enlargement and tenderness, other lymph node enlargement and tenderness, pruritus, skin involvement including edema, papular and pustular or frank urticarial rash, and fever. In clinical trials, ophthalmological conditions were examined in 963 adult patients before treatment, at day 3, and months 3 and 6 after treatment with 100 to 200 mcg/kg Ivermectin. Changes observed were primarily deterioration from baseline 3 days post-treatment. Most changes either returned to baseline condition or improved over baseline severity at the month 3 and 6 visits. The percentages of patients with worsening of the following conditions at day 3, month 3 and 6, respectively, were: limbitis and punctate opacity. In clinical trials involving 963 adult patients who received 100 to 200 mcg/kg Ivermectin, the following clinical adverse reactions were reported as possibly, probably, or definitely related to the drug in patients: facial edema, peripheral edema , orthostatic hypotension, and tachycardia. Drug-related headache and myalgia occurred in of patients. However, these were the most common adverse experiences reported overall during these trials regardless of Causality. A similar safety profile was observed in an open study in pediatric patients ages 6 to 13. The following ophthalmological side effects do occur due to the disease itself but have also been reported after treatment with ***Ivermectin:*** abnormal sensation in the eyes, eyelid edema, anterior uveitis, conjunctivitis, limbitis, keratitis, and chorioretinitis or choroiditis. These have rarely been severe or associated with loss of vision and have generally resolved without corticosteroid treatment.

DOSAGE AND ADMINISTRATION

Strongyloidiasis: The recommended dosage of Ivermec for the treatment of strongyloidiasis is a single oral dose designed to provide approximately 200 mcg of ivermectin per kg of body weight. See Table for dosage guidelines. Patients should take tablets on an empty stomach with water. In general, additional doses are not necessary. However, follow-up stool examinations should be performed to verify eradication of infection.

Dosage Guideline for Ivermec for Strongyloidiasis

Body Weight (kg)	Single Oral Dose (3mg)	Single Oral Dose (6mg)
15-24	1 tablet 3mg	½ tablet 3mg
25-35	2 tablets 6mg	1 tablets 6mg
36-50	3 tablets 9mg	1½ tablets 9mg
51-65	4 tablets 12mg	2 tablets 12mg
66-79	5 tablet 15mg	2½ tablet 15mg
≥80	200 mcg/kg	200 mcg/kg

Onchocerciasis: The recommended dosage of Ivermectin for the treatment of onchocerciasis is a single oral dose designed to provide approximately 150 mcg of ivermectin per kg of body weight. See Table for dosage guidelines. Patients should take tablets on an empty stomach with water. In mass distribution campaigns in international treatment programs, the most commonly used dose interval is 12 months. For the treatment of individual patients, retreatment may be considered at intervals as short as 3 months.

Dosage guideline for Ivermec for Onchociasis:

Body Weight (kg)	Single Oral Dose (3mg)	Single Oral Dose (6mg)
15-25	1 tablet 3mg	½ tablet 3mg
26-44	2 tablets 6mg	1 tablets 6mg
35-64	3 tablets 9mg	1½ tablets 9mg
65-84	4 tablets 12mg	2 tablets 12mg
≥85	150 mcg/kg	150 mcg/kg

Method of administration: Information for Patients: Ivermec should be taken on an empty stomach with water. **Overdose:** In accidental intoxication with, or significant exposure to, unknown quantities of veterinary formulations of ivermectin in humans, either by ingestion, inhalation, injection, or exposure to body surfaces, the following adverse effects have been reported most frequently: rash, edema, headache, dizziness, asthenia, nausea, vomiting, and diarrhea. Other adverse effects that have been reported include: seizure, ataxia, dyspnea, abdominal pain, paresthesia, urticaria, and contact dermatitis. In case of accidental poisoning, supportive therapy, if indicated, should include parenteral fluids and electrolytes, respiratory support (oxygen and mechanical ventilation if necessary) and pressor agents if clinically significant hypotension is present. Induction of emesis and/or gastric lavage as soon as possible, followed by purgatives and other routine anti-poison measures, may be indicated if needed to prevent absorption of ingested material.

INSTRUCTIONS: Dosage as directed by the physician. Store below 30°C. Protect from heat, light and moisture. Keep all medicines out of the reach of children.
PRESENTATION: Ivermec Tablets U.S.P 3mg available in Alu/Alu Blister of 2 X 10's packed in carton box with leaf insert.
Ivermec Tablets U.S.P. 6mg available in Alu/Alu Blister of 10's packed in carton box with leaf insert.

ہدایات: خوراک ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔ ۳۰ ڈگری سینٹی گریڈ سے کم پر رکھیں۔
گرمی، روشنی اور نمی سے تحفظ رکھیں۔ تمام دوائیں بچوں کی پہنچ سے دور رکھیں۔

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