Tramisol - General Information

An antihelminthic drug that has been tried experimentally in rheumatic disorders where it apparently restores the immune response by increasing macrophage chemotaxis and T-lymphocyte function. Paradoxically, this immune enhancement appears to be beneficial in rheumatoid arthritis where dermatitis, leukopenia, and thrombocytopenia, and nausea and vomiting have been reported as side effects. (From Smith and Reynard, Textbook of Pharmacology, 1991, p435-6)

Pharmacology

Tramisol is a synthetic imidazothiazole derivative that has been widely used in treatment of worm infestations in both humans and animals. As an anthelmintic, it probably works by targeting the nematode nicotinergic acetylcholine receptor. As an immunomodulator, it appears that Tramisol is an immunostimulant which has been shown to increase NK cells and activated T-cells in patients receiving this adjuvantly along with 5FU for Stage III colon cancer.

Tramisol for patients

The patient should be informed that if flu-like symptoms or malaise occurs, the physician should be notified immediately.

Tramisol Interactions

ERGAMISOL® (levamisole hydrochloride) has been reported to produce "ANTABUSE"-like side effects when given concomitantly with alcohol. Concomitant administration of phenytoin and ERGAMISOL® plus fluorouracil has lead to increased plasma levels of phenytoin. The physician is advised to monitor plasma levels of phenytoin and to decrease the dose if necessary. Because of reports of prolongation of the prothrombin time beyond the therapeutic range in patients taking concurrent levamisole and warfarin sodium, it is suggested that the prothrombin time be monitored carefully, and the dose of warfarin sodium or other coumarin-like drugs should be adjusted accordingly, in patients taking both drugs.

Tramisol Contraindications

ERGAMISOL® (levamisole hydrochloride) is contraindicated in patients with a known hypersensitivity to the drug or its components.

Additional information about Tramisol

Tramisol Indication: For adjuvant treatment in combination with fluorouracil after surgical resection in patients with Dukes' stage C colon cancer. Also used to treat malignant melanoma and head/neck cancer.

Mechanism Of Action: The mechanism of action of levamisole as an antiparasitic agent appears to be tied to its agnositic activity towards the L-subtype nicotinic acetylcholine receptors in

nematode muscles. This agonistic action reduces the capacity of the males to control their reproductive muscles and limits their ability to copulate. The mechanism of action of Tramisol as an anticancer drug in combination with fluorouracil is unknown. The effects of levamisole on the immune system are complex. The drug appears to restore depressed immune function rather than to stimulate response to above-normal levels. Tramisol can stimulate formation of antibodies to various antigens, enhance T-cell responses by stimulating T-cell activation and proliferation, potentiate monocyte and macrophage functions including phagocytosis and chemotaxis, and increase neutrophil mobility, adherence, and chemotaxis.

Drug Interactions: Anisindione The agent increases the anticoagulant effect Dicumarol The agent increases the anticoagulant effect Acenocoumarol The agent increases the anticoagulant effect Warfarin The agent increases the anticoagulant effect

Food Interactions: Take on an empty stomach.

Generic Name: Levamisole

Synonyms: Levamisol [INN-Spanish]; L-Tetramisole; dl-Tetramisol; dl-Tetramisole; Phenyl imidothiazole; Levamisolum [INN-Latin]; Levamisole hydrochloride

Drug Category: Adjuvants, Immunologic; Antinematodal Agents; Antirheumatic Agents

Drug Type: Small Molecule; Approved

Other Brand Names containing

Levamisole: Ergamisol; Ketrax; LEVOMYSOL; Lepuron;Levamisol; Nilverm base; Tetramisol; Tetramisole; Tramisol; Vermisol 150; Wormicid;

Absorption: Levamisole is rapidly absorbed (2 hours) from the gastrointestinal tract.

Toxicity (Overdose): LD_{50} = 40 mg/kg (Pigs, subcutaneous); LD_{50} = 180 mg/kg (rat, oral)

Protein Binding: 20-25%

Biotransformation: Primarily hepatic (extensive) with both active and inactive metabolites.

Half Life: 4.4-5.6 hours (biphasic)

Dosage Forms of Tramisol: Tablet Oral

Chemical IUPAC Name: (6S)-6-phenyl-2,3,5,6-tetrahydroimidazo[2,1-b][1,3]thiazole

Chemical Formula: C11H12N2S

Levamisole on Wikipedia: http://en.wikipedia.org/wiki/Levamisole

Organisms Affected: Humans and other mammals