Imidazoles, administration & dosage

Latest Paper:

Wiad Parazytol. 2001;47 (4):833-7 16886435

[Studies on usefulness of imidazol preparations for treatment of pulmonary and air sacks aspergillosis in geese]

A Ramisz, A Balicka-Ramisz

The studies were carried out in two geese farms with a total number of 11.143 - 4 weeks old birds. Two imidazol preparations--5 per cent Miconazole powder and 2 Clotrimazole solution were used in these studies. Miconazole was applied as feed additive for 200 with aspergillosis infected geese, in a dosis of 10 mg of active substance on one kg of body weight. Clotrimazole was administered in a form of inhalation in a dose of 1.5 1 of 2 per cent solution per geese house of 3000 m3. Spraying was performed using gas-pipes of steam generator joined to the air compressor of the type 3 JW - 60 (6hp). In this way 5 - 10 microm partiches were obtained. The preparation was sprayed twice ad 2 - 4 days intervals. After Miconazole administration the recovery of sick birds and inhibition of the disease in geese were observed. The Clotrimazole preparations may be also administered prophylactically in geese houses, were stationary aspergillosis has been observed.

Mesh-terms: Administration, Inhalation; Administration, Oral; Animals; Aspergillosis, diagnosis; Aspergillosis, drug therapy; Aspergillosis, veterinary; Clotrimazole, administration & dosage; Geese; Imidazoles, administration & dosage; Lung Diseases, Fungal, diagnosis; Lung Diseases, Fungal, drug therapy; Lung Diseases, Fungal, veterinary; Miconazole, administration & dosage; Poultry Diseases, diagnosis; Poultry Diseases, drug therapy; Poultry Diseases, microbiology;

Most cited papers:


Combination therapy of experimental candidiasis, cryptococcosis and aspergillosis in mice.

A Polak, H J Scholer, M Wall

Combination pairs of the major systematic antymycotic drugs, amphoteracin B (AmphB), 5-fluorocytosine (5-FC) and ketoconazole (Ktz) were administered to mice with experimental candidiasis, cryptococcosis and aspergillosis at a variety of combination ratios. The 3 mycoses were produced with 3 strains each of Candida albicans, Cryptococcus neoformans, and Aspergillus fumigatus, respectively, which were preselected to represent 3 different degrees of 5-FC sensitivity ('normally sensitive', 'moderately resistant', and 'definitely resistant'). The life-prolonging effect of the combinations was compared with the effect of each partner administered alone at the same and at the double dosage. Using the U test of Mann and Whitney and setting limits which on the whole were more rigorous than those of the isobole methods commonly applied to the study of drug interactions, the effects of the concentrations were classified as 'synergistic', 'additive', 'indifferent' or 'antagonistic'. The combination AmphB plus 5-FC was definitely synergistic or definitely
additive in all 3 candidiasis models, the most pronounced synergism occurring in the infection with the 'definitely 5-FC-resistant' C. albicans strain; in cryptococcosis produced by any of the 3 C. neoformans strains the effect was definitely additive, but only slightly additive or indifferent in the 3 aspergillosis models. The combination AmphB plus Ktz was slightly synergistic in candidiasis produced by one C. albicans strain, but definitely antagonistic in this mycosis produced by the remaining 2 strains of the same species; the combination was definitely additive or, even, slightly synergistic in the 3 cryptococcus models, but, again, antagonistic in aspergillosis produced by all 3 strains of A. fumigatus. 5-FC plus Ktz was additive or indifferent in the 3 candidiasis models, but throughout indifferent in cryptococcosis and aspergillosis.

Mesh-terms: Amphotericin B, administration & dosage; Animals; Antifungal Agents, administration & dosage; Aspergillosis, drug therapy; Candidiasis, drug therapy; Cryptococcosis, drug therapy; Drug Synergism; Drug Therapy, Combination; Flucytosine, administration & dosage; Imidazoles, administration & dosage; Ketoconazole; Male; Mice; Piperazines, administration & dosage;


Treatment of systemic mycoses with ketoconazole: emphasis on toxicity and clinical response in 52 patients. National Institute of Allergy and Infectious Diseases collaborative antifungal study.


The pharmacology, in vitro mycologic activity, toxicity, and efficacy of ketoconazole were studied in a Phase-II evaluation by the National Institutes of Health and National Institute of Allergy and Infectious Disease Mycoses Study Group. This report emphasizes the toxicity and clinical response data in 52 patients with the following systemic mycoses: blastomycosis in 16 patients; nonmeningeal coccidioidomycosis in 13; histoplasmosis in 8; nonmeningeal cryptococcosis in 7; sporotrichosis in 7; and both blastomycosis and nonmeningeal coccidioidomycosis in 1. Maximum daily doses of ketoconazole were 100 mg in 1 patient; 200 mg in 23; 400 mg in 12; and 600 mg in 16. In 52% of the patients, duration of therapy ranged from less than 1 to 6 months, whereas in 35%, duration ranged from 7 to 12 months, and in 13%, from 12 to 22 months. In 35 patients (67%), evidence of toxicity was not seen. Nausea, anorexia, or vomiting occurred in 21%. Cure or marked improvement was shown in 27 patients (52%), whereas failure of the primary course was seen in 14 (27%) and relapse after ketoconazole was discontinued in 11 (21%). Although this evaluation did not provide clear-cut clinical response data, our results indicate that ketoconazole, in the dosage regimens used, was more effective in patients with histoplasmosis and nonmeningeal cryptococcosis than in patients with blastomycosis and nonmeningeal coccidioidomycosis, and least effective in patients with sporotrichosis.

Mesh-terms: Adolescent; Adult; Aged; Anorexia, chemically induced; Antifungal Agents, administration & dosage; Antifungal Agents, adverse effects; Antifungal Agents, blood; Antifungal Agents, therapeutic use; Child; Child, Preschool; Drug Evaluation; Human; Imidazoles, administration & dosage; Imidazoles, adverse effects; Imidazoles, blood; Imidazoles, therapeutic use; Ketoconazole; Middle Aged; Mycoses, blood; Mycoses, drug therapy; Nausea, chemically induced; Patient Compliance; Piperazines, administration & dosage; Piperazines, adverse effects; Piperazines, blood; Piperazines, therapeutic use; Support, U.S. Gov't, P.H.S.; Vomiting, chemically induced;

Drugs. ;23 (1-2):1-36 6276122 [Cited: 12]

Ketoconazole: a review of its therapeutic efficacy in superficial and systemic fungal infections.

R C Heel, R N Brogden, A Carmine, P A Morley, T M Speight, G S Avery

Mesh-terms: Administration, Oral; Adult; Animals; Antifungal Agents, therapeutic use; Blastomycosis, drug therapy; Candidiasis, drug therapy; Child, Preschool; Clinical Trials; Coccidioidomycosis, drug therapy; Cryptococcosis, drug therapy; Dermatophycomycoses, drug therapy; Dose-Response Relationship, Drug; Female; Fungi, drug effects; Guinea Pigs; Histoplasmosis, drug therapy; Human; Imidazoles, administration & dosage; Imidazoles, adverse effects; Imidazoles,

Endogenous prostacyclin biosynthesis and platelet function during selective inhibition of thromboxane synthase in man.

G A FitzGerald, A R Brash, J A Oates, A K Pedersen

The consequences of inhibiting the metabolism of prostaglandin G2 to thromboxane A2 in man were studied by using an inhibitor of thromboxane synthase, 4-[2-(IH-imidazol-1-yl)ethoxy] benzoic acid hydrochloride (dazoxiben). Single doses of 25, 50, 100, and 200 mg of dazoxiben were administered to healthy volunteers at 2-wk intervals in a randomized, placebo-controlled, double-blind manner. Serum thromboxane B2 and aggregation studies in whole blood and platelet-rich plasma were measured before dosing and at 1, 4, 6, 8, and 24 h after dosing. Both serum thromboxane B2 and the platelet aggregation response to arachidonic acid (1.33 mM) were reversibly inhibited in a dose-dependent manner. Aggregation induced by 1-O-alkyl-2-acetyl-sn-glycero-3-phosphocholine (0.4 and 4.0 microM) in platelet-rich plasma as well as both aggregation and nucleotide release induced by collagen (95 micrograms/ml) in platelet-rich plasma and whole blood were unaltered by dazoxiben. Additional evidence for a platelet-inhibitory effect of the compound was a significant prolongation of the bleeding time at 1 h after administration of the highest dose (200 mg) of dazoxiben.

Endogenous prostacyclin biosynthesis was assessed by measurement of the major urinary metabolite of prostacyclin, 2,3-dinor-6-keto-PGF1 alpha (PGI-M). PGI-M excretion was increased by dazoxiben; it rose a mean 2.4-fold from predosing control values at 0-6 h after administration of the highest dose studied (200 mg).

Mesh-terms: Adult; Bleeding Time; Depression, Chemical; Dose-Response Relationship, Drug; Epoprostenol, biosynthesis; Human; Imidazoles, administration & dosage; Imidazoles, pharmacology; Male; Oxidoreductases, antagonists & inhibitors; Platelet Aggregation, drug effects; Prostaglandins F, Synthetic, urine; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.; Thromboxane B2, blood; Thromboxane-A Synthase, antagonists & inhibitors;


Long-term therapy of chronic mucocutaneous candidiasis with ketoconazole: experience with twenty-one patients.

C R Horsburgh Jr, C H Kirkpatrick

Our experience in the treatment of chronic mucocutaneous candidiasis with ketoconazole is reviewed. Of 21 patients, 15 have evidence of deficient cellular immunity and eight have endocrine abnormalities. Six patients had concurrent dermatophytosis or chromomycosis. All patients responded to treatment. Mucosal lesions improved in 6.7 +/- 0.5 days and cutaneous lesions responded to 22.7 +/- 5.1 days. The responses by infected nails were more variable (mean response time 92.4 +/- 14.4 days). Concurrent dermatophytoses did not prolong response times. Adverse effects were infrequent: one patient had drug-induced hepatitis and two patients became hypertensive. The relationship of hypertension to ketoconazole treatment is unclear. One patient was able to remain in remission after treatment was discontinued. Two patients had relapses while on treatment. Candida albicans isolated from these patients was highly resistant to ketoconazole in vitro. We conclude that ketoconazole is an effective and well-tolerated drug for the treatment of the infectious component of chronic mucocutaneous candidiasis.

Mesh-terms: Adolescent; Adult; Antifungal Agents, administration & dosage; Antifungal Agents, adverse effects; Antifungal Agents, therapeutic use; Candidiasis, Chronic Mucocutaneous, drug therapy; Candidiasis, Chronic Mucocutaneous, immunology; Candidiasis, Chronic Mucocutaneous, pathology; Candidiasis, drug therapy; Child; Chromoblastomycosis, complications; Chromoblastomycosis, drug therapy; Dermatomycoses, complications; Dermatomycoses, drug therapy; Drug Evaluation; Female; Hepatitis, Toxic, etiology; Human; Hypertension, chemically induced; Imidazoles, administration & dosage; Imidazoles, adverse effects; Imidazoles, therapeutic use; Ketoconazole; Male; Middle Aged; Piperazines,
Ketoconazole -- a new broad spectrum orally active antimycotic.
D Thienpont, J Van Cutsem, F Van Gerven, J Heeres, P A Janssen

Oral treatment with ketoconazole prevented and cured artificial crop candidosis of the turkey, vaginal candidosis of the rat and skin candidosis of the guinea-pig. It was also highly effective against artificial systemic candidosis of the guinea-pig and chicken as well as against dermatophytopses of the guinea-pig.

Mesh-terms: Administration, Oral; Animals; Antifungal Agents, administration & dosage; Antifungal Agents, therapeutic use; Candidiasis, drug therapy; Chickens; Dermatomycoses, drug therapy; Female; Guinea Pigs; Imidazoles, administration & dosage; Imidazoles, therapeutic use; Mycoses, drug therapy; Rats; Turkeys;

Recent developments in antimycotic chemotherapy.
R J Holt

Mesh-terms: Administration, Oral; Administration, Topical; Antifungal Agents, therapeutic use; Aspergillosis, drug therapy; Candidiasis, drug therapy; Chemistry; Clinical Trials; Cytosine, therapeutic use; Drug Resistance, Microbial; Flucytosine, therapeutic use; Human; Imidazoles, administration & dosage; Imidazoles, pharmacology; Imidazoles, therapeutic use; Imidazoles, toxicity; In Vitro;

High-dose ketoconazole for treatment of fungal infections of the central nervous system.
P C Craven, J R Graybill, J H Jorgensen, W E Dismukes, B E Levine

Mortality and complication rates remain unacceptably high with conventional intravenous and intrathecal therapy for patients with coccidioidal meningitis and intracerebral fungal lesions. We studied the ventricular and lumbar cerebrospinal fluid penetration of ketoconazole and the responses to therapy in two patients receiving ketoconazole orally, 800 mg daily, and amphotericin B intraventricularly for meningeal and extrameningeal coccidioidomycosis. Five patients received only 1200 mg of ketoconazole: one had uncomplicated coccidioidal meningitis, three had obstructive hydrocephalus due to coccidioidal meningitis, and one had a histoplasmal brain abscess. Ketoconazole concentrations in ventricular and lumbar fluid ranged from 0.05 to 1.65 micrograms/mL 4 and 8 hours after the dose. The mean penetration of ketoconazole (+/- SD) was 1.9% +/- 0.8% for ventricular fluid and 5.4% +/- 2.6% for lumbar fluid. Ketoconazole concentrations in cerebrospinal fluid varied directly with those in serum and with cerebrospinal fluid protein content. The encouraging clinical responses, convenience, safety, and the consistent penetration of ketoconazole into obstructed and nonobstructed cerebrospinal fluid support the use of these regimens as alternatives to conventional therapy.

Mesh-terms: Amphotericin B, administration & dosage; Antifungal Agents, administration & dosage; Antifungal Agents, metabolism; Central Nervous System Diseases, drug therapy; Coccidioidomycosis, drug therapy; Coccidioidomycosis, metabolism; Drug Therapy, Combination; Human; Imidazoles, administration & dosage; Imidazoles, metabolism; Ketoconazole; Piperazines, administration & dosage; Piperazines, metabolism; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.;

Oral ketoconazole in the treatment of leishmaniasis.
F G Urcuyo, N Zaias

Mesh-terms: Administration, Oral; Adolescent; Adult; Antifungal Agents, administration & dosage; Antifungal Agents, therapeutic use; Clinical Trials; Female; Human; Imidazoles, administration & dosage; Imidazoles, therapeutic use; Ketoconazole; Leishmaniasis, Mucocutaneous, drug therapy; Leishmaniasis, drug therapy; Male; Middle Aged; Nicaragua;
Oral therapy for experimental coccidioidomycosis with R41 400 (ketoconazole), a new imidazole.

H B Levine, J M Cobb

Oral treatment of mice with R41 400, ketoconazole, after intranasal challenge with arthrospores of Coccidioides immitis prevented death at doses of 40 mg per kg of body weight per day. Doses of 160 mg per kg of body weight per day during 50 to 100 days eradicated the fungus from the lungs, liver, spleen and kidneys of approximately one half of the infected animals. Resistance to the drug was not induced during prolonged treatment. Hydropic changes in the liver occurred in animals receiving doses of 160 mg per kg of body weight per day by the fiftieth day of treatment, but did not occur at lower doses.

Mesh-terms: Administration, Oral; Animals; Coccidioides, drug effects; Coccidioidomycosis, drug therapy; Coccidioidomycosis, pathology; Dose-Response Relationship, Drug; Drug Evaluation, Preclinical; Hepatitis, Toxic, pathology; Imidazoles, administration & dosage; Imidazoles, therapeutic use; Imidazoles, toxicity; Kidney Diseases, drug therapy; Kidney Diseases, pathology; Kidney, pathology; Liver Diseases, drug therapy; Liver Diseases, pathology; Liver, drug effects; Liver, pathology; Lung Diseases, Fungal, drug therapy; Lung Diseases, Fungal, pathology; Lung, pathology; Mice; Microbial Sensitivity Tests; Spleen, pathology; Splenic Diseases, drug therapy; Splenic Diseases, pathology;