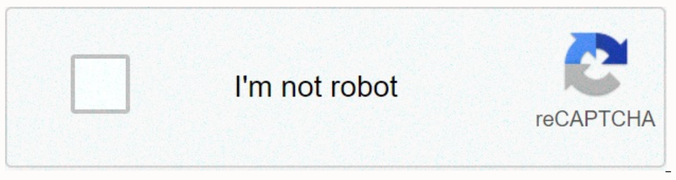

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Pengertian antijamur pdf

1. PHARMACOLOGY ' Antifungal Drugs' Members : 1. Vera Nadia 2. Jan 28, 2019 - February 2019 Jati Setyarini 2. A. Understanding Antifungal drugs Antifungal drugs are also called antifungals, which are used to treat two types of fungal infections: superficial fungal infection of the skin or mucous membranes and systemic fungal infections of the lungs or central nervous system. 3.B. Antifungal medicinal products According to clinical indications of antifungal medicinal products according to clinical indications, antifungal agents can be divided into two groups, I this: antifungals for systemic infections, including: ampothericin B, flusitozin, imidazole (ketonazol, fliconazole, miconazole) i hydroxylbstiamidine. Antifungals for dermatophytes and mucothane infections include: griseofulvin, imidazole group, prestatin, tolnaftate, and other topical antifungals. 4.C. Anti Fungi for systemic infection 1.Amphotericin B Amphotericin A and B are caused by fermentation of streptomyces nodosus. 98 per cent of this mixture consists of amhotericin B, which has antifungal activity. How it works: This medicine works by connecting to a delicate sponge or yeast cell membrane. Integration with membrane sterols of susceptible fungal or yeast cells. Integration with the cell membranesterols forms pores, so that fungal cell membranes are more permiabel for small molecules. Indications of life-threatening severe fungal infections include: histoplasmosis, coccidiodomysis, paracocydiomycosis, blastomycosis, aspergilosis, crypto tococosis, mucormycosis, spotrikosis and candidosis 5. Contraindications interfere with renal function, pregnancy and meyusui. Dose of systemic yeast infection by intravenous injection. Starting dose 1 mg for 20-30 minutes, followed by 250 micrograms /kg per day, rises slowly to 1 mg / kg per day, in severe infections can be raised up to 1.5 mg / kg per day. Side effects of fever, headache, muaal, weight loss, vomiting, limp, diarrhoea, muscle and joint pain, bloating, heart pain, kidney disease, blood disorders, heart rhythm disorders, peripheral nerve disorders, liver function impairment, pain and bruising at the injection site. 6. 2. Flusitosin Flusitozine (5-fluorositosin; 5FC) is a synthetic antifunquin obtained from pyrimidine fluorination and has structural similarities to fluorourasil and floxuridine. The drug is in the form of odourless white crystals, slightly soluble in water, but easily soluble in alcohol. How it works: Flusitosin enters fungal cells using cytocin deaminase and the cytoplasm will join RNA after experiencing deamines to 5-fluorourasil and phosphorylation. The synthesis of fungal cell proteins is reduced due to inhibition of langsung DNA synthesis by fluorourasil metabolites. This condition does not occur in mammalian cells because flusitozin is not converted into fluorourasil in the mammalian body. 7. Indications: The medicine is effective for the treatment of cryptococorticoids, candidiasis, chromomiosis, toruloposis and candida becomes resistant during treatment with flusitosin. Dose : Use of flusitonin at a dose of 150% mg / kg BB / day on oral diabsorbs well and distributed throughout the body of tissues, including fluid cerebrospinal- with straight drugs that can reach 60-80% serum levels, which can approach levels of 50 mcg / ml. approximately 20% flusitosin is bound to proteins. Use of flusitosin combination with amphotiresin B, especially in cryptococal meningitis and systemic candidiasis, and may reduce the required dose of amhotiresin B. 8. Side effects and how to overcome: When there is renal weakness, flusitozin can accumulate in serum until it reaches toxic levels, but if there is liver weakness does not give such an effect. Flusitosin may be eliminated by haemodialysis. Flusitosin has been shown to be relatively not toxic to mammalian cells (perhaps because they do not have specific permease). However, high serum levels in the long term can lead to bone marrow depression, hair loss and impaired hepar. The use of urasila may reduce the toxicity of haemolyptic tissue manifested by bone marrow depression, but it does not appear to affect the antifungal activity of flusitosin 9.3. Imidazole included in the imidazole group are miconazole, clotrimazole, ketoconazole, fluconazole, itraconazole, triazole, ecconazole, isoconazole, thioconazole and biphonazole. The properties and uses of this imidazole group are practically non-different. Mechanism of action : The mechanism of action of this medicinal product is unknown. The drug works by blocking the lipid biosynthesis that fungi need, especially ergosterol in the sponly cell membrane, and possibly also with other additional mechanisms (disrupting the synthesis of the ailing acids or the rumpizing of peroxide in the fungal calf, which causes damage). 10. Ketonazol Ketonazol belongs to the group imidazole, which is a synthetic antifuncocular with a formula similar to miconazole and clotrimazole. The work of Ketokanazol occurs in fungal cells and causes damage to cell walls. Synthetic disturbances of the ailic acids or cooling of peroxides in cells that damage fungal cells may also occur. The dose of ketoconazole is the first antifuncocular that can be administered orally. Ketoconazole is diabsorbs well through the oral, which produces enough levels to suppress the growth of various fungi. With an oral dose of 200 mg, it obtained top levels of 2-3 mcg/ml lasting 6 hours or more. 11. Clinical use and contraindications: Ketoconazole is particularly effective against pulmonary histoplasmosis, bones, joints and fatty tissues. Not recommended for cryptococcal meningitis because penetration is not good. The drug is effective for nonmeningeal cryptocococ, dermatomycosis and candidosis (mukotan, vaginal and oral cavity) Ketoconazole is contraindicated in hypersensitive patients, pregnant and breast-feeding mothers, as well as acute hepar disease. 12. Side effects They generally tolerate it well. The most common side effects are nausea, gynecomastia, rush, pruritus, cholestatic hepatitis, cortisol and tetosterone blockade synthesis (reversible) These side effects are milder when used with food. Sometimes there may be vomiting, headache, vertigo, epigastric pain, photobial, paraesthesia, bleeding clops, skin outbreaks, and thrombocytopenia. Ketoconazole can temporarily increase the activity of liver enzymes, and can also cause liver damage, inhibit the synthesis of suprarenalis steroids and can cause gynecomastia. It should not be used in pregnant women as it has been shown to cause defects in mice in mice. 13.b. Fluconazole fluconazole is a derivative of triazole, an antifungal crucible that works specifically to inhibit the formation of sterols in fungal cell membranes. Fluconazole works with high specificity in enzyme-dependent cytochrome P-450 Clinical Indicational Fluconazole, Indicated for: systemic candidiasis cryptococcal meningitis (including candidemia and disediminata candidiasis), and other forms of candidiasis, including infections of ditonium quasca, endocardium and yeast infections u soul and gastrointestinal tract, Kandidiasis oropharyngeal Kandidiasis 14. Contraindications will occur contraindicated in patients sensitive to triazole derivatives. Use in pregnant and breast-feeding women, and children under 16 years of age is not recommended because there is no data certainty that this medicine is safe for their dose and the way daily dose is administered should be adapted to the patient's cause and response organism, namely cryptococcal meningitis on the first day of 400 mg, followed by 1x200-400 mg per day. The duration of treatment is usually up to 6-8 weeks candidemia or other candidiasis: the first 400 mg daily continues 200mg daily. The dose may be increased to 400 mg per day depending on the response. The length of treatment also depends on the response. Oropharynx candidiasis 1x50 mg 7-14 days. 15. 4. Hydroxystilbamidine Hydroxystilbamidine izetionate is an aromatic diamine that is active in vitro and in vivo tehadap Blastomyces dermatidis. The drug can be very toxic to hepar and kidneys. It is no longer used and has been replaced by ammitrikin B. 16. D. Antifungals for Dermatophyte and Mucokutan Infection Griseofulvin source and chemistry was isolated from Penicillium griseofulvum in 1939, and introduced its clinical use in 1957. Griseofulvin is very difficult to dissolve in water and stable at high temperatures, including heating with an autoclave. Griseofulvin antifungal activity will inhibit the growth of dermatologic fungi, including epidermophytes, microspores and leotardi at levels of 0,5-3 g/ml.Against the development of young cells, griseofulvin has fungi and fungiistatic smear. Sensitive dermatophyte may occur The inhibitory growth effect of this fungus may interfere with purines. Its mechanism of action is not yet fully known, and its fungic effects can be caused by griseofulvin, which affects microtubule function or acid synthesis and polymerisation. 17. The pharmacokinetics of absorbsi griseofulvin relies heavily on the physical condition of this drug and its absorption helps foods that contain high in fat. Compounds in the form of smaller particles (microsized) are 2 times better than larger particles. Micro-sized griseofulvin at a dose of 1 gram/day will produce blood levels of 0.5-1.5 mcg/ml. griseofulvin is 2 times larger than ultramicrobial diabsorbs as micro-large compounds. Metabolism occurs in the liver. The major metabolite is 6-methylgriseofulvin. The half-life is approximately 24 hours. The amount excreted in the urine is 50% of the oral doses given as metabolite and last for 5 days. Sick skin has a higher affinity for this drug,it is stocked in cells that form keratin, is firmly bound to keratin and will appear with new differential cells so that these new cells will be resistant to fungal attacks. Keratin, which contains fungi, will be peeled and replaced with normal new cells. Griseofulvin can be found in horn cells 4-8 hours after administration on the oral. 18. Clinical use of Griseofulvin is indicated for severe skin, nail and hair dermatophysosis, especially those caused by Trichophyton rubrum, which provides a weak response to other antifungal fungi. The drug can be given together with other topical antifungal. Local administration had not had much effect. Griseofulvin compounds in the form of microsyne are administered orally 0.5-1 gram per day, in divided doses (children's dose 15 mg/kg BB). Allergic reactions Side effects: may include fever, skin rash, leukopenia and serum sickness. Direct toxicity: headaches, nausea, vomiting, driers, hepatotoxicity, photosensitivity and mental disorders may occur. In experimental animals, griseofulvin is teratogenic and carcinogenic. The interaction of Griseofulvin may reduce the anticoagulant activity of warfarin. Barbiturates reduce griseofulvin activity because barbiturates induce microsom enzymatic systems. 19. 2. Imidazole The antifungal group of imidazole has a wide spectrum. Since its characteristics and use are practically non-different, only miconazole and clotrimazole will be discussed. The sources of miconazole and the chemical Miconazole are relatively stable synthetic derivatives of imidazole. It has a wide antifungal spectrum against dermatophyte fungi. The drug is white crystal formed, colorless and odourless, a small part soluble in water, but more soluble in organic solvents. 20. Miconazole atijamur activity inhibits the action of trihofitonal mushrooms, epidermophyton, mycosporima, candida and malassezia furfur. Effective miconazole in vitro a few grams of positive germs. The mechanism of action of this mechanism of action of the medicinal product is not yet fully known. Myconazol enters fungal cells and causes damage to cell walls by increasing the recipient of various intracell substances. There may also be a breakdown in the synthesis of fungal cells, which will cause damage. The drug that penetrated the horn layer of the skin will remain there for up to 4 days. 21. The clinical use of topical miconazole is indicated for dermatophyssis, tinea versioncolor and mucotic candidiasis. Griseofulvin should be used for moderate or severe dermatophytes that hit the scalp, hands and nails. The drug is available as 2% cream and powdered sessions used 2x a day for 2-4 weeks. Cream 2% for intravaginal use is given once a day at night for 7 days. 2% gel is available for oral candidiasis. Miconazole should not be given to the eyes. Side effects Irritation, burning and masseurs require discontinuation of treatment. A small amount of miconazole is absorbed through the vaginal mucosa, but there have been no reports of adverse reactions in infants whose mothers have received intravaginal miconazole during pregnancy, but their use during the first trimester should be avoided. 22. Clotrimazole Source and chemical chlortrimazole in the form of a colourless powder which is practically insoluble in water, alcohol and chloroform, slightly soluble in the ether. The mechanism of action of Chlortrimazola has antifungal and antibacterial effects with miconazole-like mechanism and is locally used to treat tinea pedis, kruris and corporals caused by T. skin infections and vulvovaginitis caused by C. albicani. Clinical use This medicine is available as creams and solutions containing 1% for use 2x per day. Vaginal cream 1% or vaginal pills 100 mg is used once a day at night for 7 days. Or vaginal pills 500 mg. Side effects A single dose of topical use may affect burning, erythema, oedema, itching and urticaria. 23. 3. Nystatin is a medicine that belongs to a group of medicines called antifungal medicines. The sleeping powders, sucking pills, and liquid forms of the drug are used to treat fungal mouth infections. Nystatin can only be available with a prescription doctor. The drug is available in the following forms of care: Capsule Suspension Tablets How it works The mechanism of action is with kalano, which is associated with the sterol membrane of fungal cells, especially ergosterol. Therefore, the permeability disorder is the sponge of the cell membrane and its transport mechanism. Because of this fungal cells lose a lot of kcation and macromolecule cells. Resistance may be due to a decrease in the number of sterols in the fungal cell membrane or changes in the nature of the structure or the nature of its bonds. 24. The indications of tetinate are mainly used for skin candidiasis, mucous membranes and gastrointestinal tracts. Paonikia, vaginitis and stomatitis are fairly healthy patients with severe pain, ketoconazole may be given. Nistatin is used locally on the skin lining the atatu (mouth and vagina) in the form of creams, ointments, supositories, suspense, or powder for joint candida infection. Contraindicated hypersensitivity to nystatin 25. Dose 100 mg For the teblet shape. Adults and young > 5 years 1 or 2 suckers tablets or 1 tablet 3-5 times a day for up to 14 days b. Children 0 to 5 years of age Children of this age may not be able to use suing tablets or tablets safely. It is better to take Nystatin as a suspension in children at this age. 2. For the shape of the prepared suspension. Adults and young > 5 years 4-6 ml (about 1 teaspoon) 4 times a day b. Toddlers 2 ml 4 times a day c. For preterm infants and infants with low birth weight 1 ml 4 times daily on 26 April 2008, the dose should be 1 ml 4 times daily. Side effects Along with the necessary effects, the drug can cause some undesirable effects. Although not all side effects can occur, however, if they occur, it may require medical attention. Some side effects that may occur usually do not require medical care. These side effects may be lost during treatment because the body will be able to adjust the drug. Your doctor may also tell you how to prevent or mitigate some side effects. Contact your doctor immediately in case of side effects including: 1. Diarrhoea 2. Nausea or vomiting 3. Abdominal pain 27. 4.Tolnaftat and Tolnaftat toxicity are effective antifungal antifungal anti-infection drugsTrikophyton, Mikrosporum, epidermophyton, malassezia furfur, or ineffective u bond with candida, i aspergilus, or i u conditions accompanied hyperkerateosis, tolnaftate should be administered alternately sa 10% salicylic acid ointment. Scalp lesions caused by T. tonsurans and M. auduoini are less successful in co-trimazol and the onicism is not affected by chlortrimazole. If treatment is discontinued, the infection may recur, but there is no resistance, so re-treatment will still provide satisfactory results. Topical use of tolnaphthalate rarely causes irritation or oversensitive reactions. The toxicity of antifungal derivatives of tyocarbamate is effective against Epidermophyton floccosum, and Malassezia surfur. At a level of 0,01-0,1 mcg/ml in vitro toxic activity is comparable to tolnaftal. 28. 5. Antifunctionaltopic Another a. Kandisidin Kandisidin is a polyene antibiotic derived from the goan aktnomic. Candidiadine is only used for topical vaginal cancer use and is available as vaginal tablets @ 3 mg and 0.06% vaginal ointment, equipped with an application. The dose is 2x a daily 1 tablet or 2x per day used in the vagina. Side effects may be irritation of the vuk or vagina, but rarely there are serious side effects. 29. The Ointfield OintmentWhitfield ointment is a mixture of salicylic acid with acid Keratolytic salicylic acid and benzoatic acid are fungistic. Since benzoate acid is only fungistatic, it is possible to achieve that drug after the skin layer is completely peeled, so the use of

this drug takes several weeks per month. This ointment is often used for pediatrics and sometimes also for Capitistine. Side effects are usually a local reaction with mild inflammation. It is very rare that the skin blisters, blisters or salicylic poisoning absorbs the skin. Although rare, however, topical poisoning of salicylate was especially in infants and children who are over-desmoled or skin tightly smuted. Symptoms of salicylic poisoning include dizziness, restlessness, headache, rapid breathing, buzzing ears, even death. Salicylic acid and benzoateic acid are weak irritable, they can cause irritation and dermatitis. 30. Caution: Avoid contact with eyes and other mucous membranes, faces, genitals. Avoid prolonged use for large areas. How to administer For children twice a day until skin lesions improve, usually 4 weeks. Liver and kidney disease: there is no need to lower the dose of Warfarin interactions: salicylates absorbed in large quantities can interfere with the ability to clot blood and thus increase the risk of bleeding. Avoid concomitant use with warfarin. 31. Natamisin Natamicin is an antibiotic polyene polyfunctional antifungal that is active against many fungi. The use of the eyes rarely causes irritation, then is used for fungal keratitis. Natamisin is a chosen drug for fusarium solani infection, but its pervasive strength in the cornea is inadequate. Natamycin is also effective for oral and vaginal candidiasis. The preparation is available in the form of suspense 5% and ointment 1% for eye-wearing. Eyes.