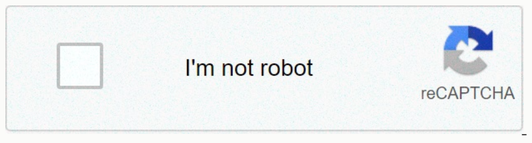

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Idsa c. difficile treatment guidelines

DIFICID is contraindicated in patients who have known hypersensitivity to fidaxomycin or any other ingredient in DIFICID. Acute hypersensitivity reactions, including breathlessness, rash, pruritus, and angioedema from the mouth, throat and face have been reported with DIFICID. If a severe hypersensitivity reaction occurs, DIFICID should be discontinued and appropriate therapy should be instituted. DIFICID is not expected to be effective for treating other types of infections due to minimal systemic absorption of fidaxomycin. DIFICID has not been studied for the treatment of infections other than CDAD. DIFICID should only be used for the treatment of CDAD. Only use DIFICID for proven or strongly suspected infection to be caused by C. difficile. Prescribing DIFICID in the absence of a proven or strongly suspected C. difficile infection is unlikely to provide benefit to the patient and increase the risk of drug-resistant bacteria development. The most common adverse reactions in adults reported in clinical trials are nausea (11%), vomiting (7%), abdominal pain (6%), gastrointestinal bleeding (4%), anemia (2%), and neutropenia (2%). The most common adverse reactions in paediatric patients treated with DIFICID are pyrexia (13.3%), abdominal pain (8.2%), vomiting (7.1%), diarrhea (7.1%), constipation (5.1%), increased aminotransferases (5.1%), and eruption (5.1%). Among adult patients receiving DIFICID, 33 (5.9%) he withdrew from the trials as a result of adverse reactions. Vomiting was the main adverse reaction that led to dosage disruption (incidence of 0.5% for both DIFICID and vancomycin patients). The safety and efficacy of the 6-month-old DIFICID < has not been established. The recommended dose of DIFICID for adults and pediatric patients weighing at least 12.5 kg and able to swallow tablets is a 200 mg tablet orally twice a day for 10 days, with or without food. The recommended weight dose of oral suspension in paediatric patients (weighing at least 4 kg) is twice as daily for 10 days. No dose adjustment is recommended for patients ≥ 65 years of age. No dose adjustment is recommended for patients with renal insufficiency. Dosage adjustments are not recommended when coadministrating fidaxomycin with P-gp or CYP enzyme substrates. The impact of liver deterioration on the pharmacokinetics of fidaxomycin has not been assessed; However, since fidaxomycin and its active metabolite (OP-1118) do not appear to suffer from significant liver metabolism, it is not expected that the elimination of fidaxomycin and OP-1118 is significantly affected by liver deterioration. Before prescribing DIFICID® (fidaxomycin), please read the prescribed information. Patient information is also available. 2019;44(4):HS-9-HS-12. SUMMARY: Clostridium difficile is a pathogen known to cause and colitis. If not treated properly, you can resort as well as advance to life-threatening conditions such as toxic megacolour and multi-willnid multiorgan Guideline updates released in 2018 reflect notable changes in the treatment of Diffuser C infection (FDI). Metronidazole is no longer recommended as first-line therapy for adults; now it is recommended oral vancomycin and fidaxomycin. Current guidelines recommend fecal microbiota transplantation for patients with multiple CDI recurrences in which antibiotic treatment has failed. Pharmaceutical participation in antibiotic custody programs has been shown to significantly reduce hospital rates of CDI. Clostridium difficile, also known as C difficile, is a gram-positive, spores-forming bacteria known to cause diarrhea and colitis. Severe cases can lead to sepsis, pseudomembranous colitis, toxic megacolon and multiorgan failure. The CDC estimates that diffuser C affects half a million people each year, and 20% of those affected can re-infect.1 It is reported that 1 in 11 people over the age of 65 died of a health-associated Diffficile C infection (CDI) within a month of diagnosis.1 Risk factors for the diffuser C include the use of antibiotics , the age above 65 years, recent hospitalizations, a weakened immune system, and anterior CDI or known exposure.1-3 C fuzzy spores propagate through the fecal-oral route, hand-to-hand contact, and airborne environmental dispersion in hospitals. Symptoms of CDI usually develop shortly after the use of antibiotics, at risk of persisting up to 90 days.2 The highest risk of FDI occurs during and in the first month after exposure to antibiotics. The widespread use of antibiotics and the use of multiple antibiotics further increase the risk of CDI. Chemotherapy, gastrointestinal surgery, and the use of acid suppression drugs such as proton pump inhibitors or histamine-2 blockers are risk factors, so.2,4 Symptoms of CDI include diarrhea with loose and aqueous stools, or frequent bowel movements for several days; fever; tenderness or stomach pain; loss of appetite; and nausea. The use of macrolide antibiotics including clindamycin, third and fourth generation cephalosporins, penicillins, fluoroquinolones and carbapenems are frequently associated with CDI. The use of antibiotics suppresses the normal intestinal microbiota and allows the diffuser C to flourish.4 C diffuser produces two toxins capable of causing colitis: enterotoxin (toxin A) and cytoxin (toxin B). Toxin A is more powerful. Toxins trigger neutrophils, causing inflammation of the lining of the mucosa, cell necrosis, and increased peristalsis and capillary permeability, resulting in diarrhea and colitis. The Pulsed Ice Strain of North America Type 1 (NAP 1) of Diffuse C has been linked to severe outbreaks in North America and Europe. Turnip 1 is said to produce binary toxin, 16 times more toxin A, and 23 times more toxin B than Strains.5 Diagnosis of CDI patients with three or more unformed, unexplained and new stools within 24 hours should be tested for cDI.4 C diffuser can be diagnosed by detecting toxin A and/or Bxin in a stool sample. A One toxin test should be used as part of a multicomparation algorithm with glutamate dehydrogenase (GDH) plus toxin; GDH plus toxin, arbitrated by nucleic acid amplification test (NAAT); or NAAT plus toxin, rather than NAAT alone. Enzyme immunoassay (EIA) is also used to detect toxin A or toxin B. EIAs are advantageous because they have a rapidly changing time. GDH quickly detects the presence of diffuser C in stool samples, but does not have the ability to detect the production of toxins. Enzyme-linked immunosorbent trial (ELISA) tests for toxin A or toxin B also provide fast-changing time and high specificity.4.5 Treatment In February 2018, the Society of Infectious Diseases of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) released an update to clinical practice guidelines for CDI in , which included new recommendations.4 The biggest change in the previous guide involves the initial treatment of IED. Metronidazole is no longer recommended as first-line therapy for adults. Oral vancomycin and fidaxomycin are now supported as frontline options for both non-serious and severe initial episodes of CDI. This change stems from evidence that either option guarantees the resolution of symptoms and sustained resolution a month after treatment. Metronidazole is only recommended for non-diverse initial episodes when patients cannot obtain or be treated with oral vancomycin or fidaxomycin. Repeated or prolonged treatment courses should be avoided due to the risk of neurotoxicity. Patients with fulminating CDI should receive vancomycin 500 mg 4 times a day in combination with IV metronidazole. For recurrent CDI, metronidazole should not be used. If metronidazole was used for initial treatment, patients should receive oral vancomycin. If vancomycin was used as an initial treatment, vancomycin can be administered again, but as a crymax and pulsed regimen, or fidaxomycin can be used. In second or subsequent recurrences, patients can be treated with oral vancomycin, fidaxomycin, or a fecal transplant. The guide does not advise extending CDI treatment beyond the recommended treatment course nor does it recommend restart CDI treatment empirically for a patient requiring continued antibiotic therapy. TABLE 1 presents the treatment recommendations based on the updated guidelines 2018.4 Vancomycin vancomycin is a glyceopeptide that inhibits the synthesis of the bacterial cell wall by blocking the polymerization of glycopides through binding to the d-alanyl-d-alanine portion of the cell wall precursor. Vancomycin is administered orally for the treatment of CDI and is minimally absorbed to achieve higher concentrations in the colon. Adverse effects of oral vancomycin abdominal pain, dysgeusia, nausea, headache, flatulence and peripheral edema.6,7 Fidaxomicin Fidaxomicin (Dificida) is an antibacterial macrolide drug that is bacterician against C diffuser in vitro, inhibiting the synthesis of RNA by RNA polymerases; was to be May 2011. It is indicated for adults aged 18 and over for the treatment of diarrhea associated with diffuser C. To reduce drug-resistant bacteria and maintain efficacy, fidaxomycin should only be used to treat infections that are proven or strongly suspected to be caused by C difficile. The recommended dose is 200 mg orally twice a day for 10 days with or without food. Fda approval was based on two randomized, double-blind and non-inferiority trials that compared fidaxomycin to vancomycin. The primary results were the rate of clinical response at the end of therapy based on improved diarrhea or other symptoms and sustained clinical response 25 days after the end of treatment. Both end points were achieved to show that fidaxomycin is not inferior to vancomycin. Reported adverse events include nausea, vomiting, abdominal pain, gastrointestinal bleeding, anemia and neutropenia.8,9 Rifaximin Rifaximin inhibits bacterial RNA synthesis by binding to bacterial DNA-dependent RNA polymerase. Rifaximin is recommended in the guidelines as an attached post-vancomycin treatment regimen for patients with recurrent CDI. It is not absorbed and therefore has minimal systemic effects, but there are concerns about potential resistance with the use of rifaximin. Common side effects reported include dizziness, fatigue and nausea.4,6,10 Metronidazole Metronidazole is a nitroimidazole that interacts with DNA to cause a loss of the helical structure of DNA and thread breaking resulting in inhibition of protein synthesis and cell death in susceptible organisms. Oral metronidazole is 100% bioavailable. However, there is a low concentration of medications at the site of infection due to systemic absorption, which is thought to contribute to reducing efficacy in moderate and severe cases of CDI. Reported adverse effects include headache, nausea, metallic taste, dizziness and abdominal pain.6,11 Fecal microbiota transplantation Current guidelines recommend fecal microbiota transplantation for patients with multiple CDI recurrences in which antibiotic treatment has failed. The gastrointestinal tract is estimated to have more than 160 bacterial species, with a majority residing within the colon. Since antibiotics suppress the growth of normal gut bacteria, pathogens such as diffuser C. Butyrate can proliferate is a short-chain fatty acid (SCFA) that is produced by bacteria that tend to be depleted in FDI. SCFA is important for energy production, immune function, and normal gut microbial growth. Recurrent CDI also reduces Bacteroidetes and Firmicutes, which are dominant intestinal flora. Reimplaning these strains of bacteria by fecal transplantation of healthy individuals can restore normal intestinal biodiversity. The average recurrent IED healing is reported to be 91% to 96% with fecal transplantation. A variety of administration routes have been reported in the literature, including nasogastric administration, rectal enema, colonoscopic administration, and oral preparations of Fecal microbial transplant capsules.2,4 Attachive therapy Bezlotoxumab (Zinplava), a human monoclonal antibody that binds to Diffuse C toxin B, was approved in October 2016. It is indicated to reduce the recurrence of CDI in patients 18 years of age or older who are receiving antibacterial drug treatment by CDI and are at high risk of CDI recurrence. This drug was recently approved, after the completion of the updated guidelines, and will therefore be included in future guideline updates.12-14 Bezlotoxumab is not indicated for the treatment of CDI because it is not an antibacterial drug and should only be used in conjunction with the pharmacian treatment. Bezlotuxumab inhibits the binding of toxin B and prevents its effects on mammalian cells. It does not bind to C diffuser toxin A. The recommended dose is 10 mg/kg as an infusion IV for 60 minutes.13 FDA approval was based on two Phase 3 trials, MODIFY I and II. Both studies included more than 1,000 patients in several countries and were conducted in both hospital and outpatient settings. The main result was evaluated through 12 weeks after administration of study drugs. In both MODIFYING I and II, the CDI recurrence was lower with bezlotoxumab than with placebo in groups of patients with previous episodes of CDI, infection with the strain BI/NAP1/027, severe CDI, age 65 years and older, and committed immunity. Adverse effects included nausea, pyrexia and headache. In those with a history of congestive heart failure (CHF), heart failure occurred in 12.7% of patients treated with bezlotoxumab compared to 4.8% in the placebo group. Patients treated with bezlotoxumab also had a higher mortality rate compared to placebo-treated patients. Therefore, in patients with a history of CHF, bezlotoxumab should be reserved for use when the benefits outweigh the risks.12-14 Role of the pharmacist One of the main risk factors for the development of CDI is the use of antibiotics, so pharmacists can play a vital role in minimizing patient risk through antimicrobial custody. Rapid initiation and administration of antibiotics have been shown to reduce morbidity. However, it is estimated that 20% to 50% of all antibiotics prescribed in U.S. hospitals are unnecessary or inadequate. Not only does the inappropriate use of antibiotics contribute to antibiotic resistance, but it also increases the potential for adverse patient events such as CDI. Pharmaceutical participation in antibiotic custody programs optimizes the treatment of infections by selecting appropriate antibiotics and de-escalated therapy when applicable, and it has been shown that significantly reducing hospital rates of CDI.15 pharmacists are also able to provide to prevent the spread of IED. Patients should be educated to wash their hands with soap and water every time they use the bathroom and always before eating. Anyone caring for an IED-infected patient should take precautions such as wearing robes and gloves to prevent the spread. At home, CDI CDI with diarrhea should use a separate bathroom if possible. Surfaces can be cleaned with a mixture of bleach and water.16 By keeping abreast of treatment updates, such as those in the SHEA/IDSA 2018 guidelines, pharmacists can also help other healthcare providers implement the right therapy for this potentially deadly pathogen. REFERENCES 1. CDC. What is C. diff? 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