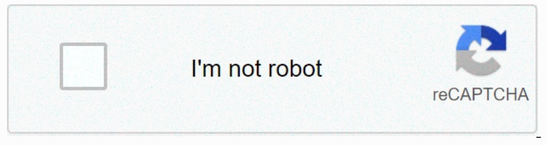

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C. diff guidelines

US Pharm. 2019;44(4):HS-9-HS-12. Summary: Clostridium difficile is a pathogen known to cause diarrhea and colitis. If not handled properly, it can be repeated as well as progress to life-threatening conditions such as toxic megaconon and multiorgan failure. Updates to the 2018 guidelines reflect significant changes in the treatment of C difficile (CDI) infection. Metronidazole is no longer recommended as a first-line treatment for adults; Current guidelines recommend stool germ implantation for patients with multiple recurrences of CDI who have failed antibiotic treatment. Pharmacist's participation in antibiotic supervision programmes has been shown to significantly reduce hospital cdi rates. Clostridium difficile, also known as C difficile, is a gram-positive, spore forming bacteria known to cause diarrhea and colitis. Severe cases can lead to sepsis, pseudocolitis, toxic amplifiers and multiple committee failures. THE CDC ESTIMATES THAT C difficile affects half a million people each year, and 20% of infected people may be infected again.1 It is reported that 1 in 11 people over 65 years of age have died of c difficile infection associated with health care (C difficile) within a month of diagnosis.1 Risk factors for Cicile include the use of antibiotics, age over 65 years, bacteria spreading in recent hospitals, weakening of the immune system, and previous I, or Exposure known as.1-3 c difficile microbes via oral stool, hand-to-hand contact, and airborne environmental dispersion in hospitals. CDI symptoms usually develop shortly after antibiotic use, with risks persisting for up to 90 days.2 The highest CDI risk occurs during and in the first month after antibiotic exposure. The use of extended antibiotics and the use of multiple antibiotics increase the risk of infection with antibiotics. Chemotherapy, gastroenterology, and the use of acid suppression drugs such as proton pump inhibitors or histamine blockers-2 are risk factors as well.2,4 CDI symptoms include diarrhea with loose, watery stool, or frequent bowel movements for several days; Fever; stomach or pain; anorexia; nausea. The use of antibiotics including cleendicin, third and fourth generation cephalosporin, penicillin, fluoroquinolone, and carbapenim is often associated with CDI. The use of antibiotics suppresses natural intestinal microbes and allows C difficile to thrive.4 C difficile produces two toxins capable of causing colitis: enterotoxin (poison A) and sicitin (poison B). Poison A is more powerful. Toxins cause neutrophils, causing inflammation of the mucous lining, cell necrosis, increased peristalsis and capillary permeability, leading to diarrhea and colitis. The North American type 1 (NAP 1) strain of C difficile has been linked to a severe outbreak in North America and Europe. NAP 1 is reporting the production of binary poison, 16 times more than poison A, and 23 times more B of other strains.5 CDI patients diagnosed with three or more untreated, unexplained, and new in 24 hours should be tested for CDI.4 C difficile can be diagnosed by detecting poison A and/or B poison in a stool sample. Fecal poison testing should be used as part of a multistep algorithm with glutamate dehydrogenase (GDH) plus poison; GDH plus poison, arbitration by DNA amplification test (NAAT); or NAAT plus poison, rather than NAAT alone. The immune enzyme (EIA) is also used to detect poison A or poison B. EIAs are useful because they have a rapid shifting time. GDH quickly detects the presence of difficile C in stool samples but has no ability to detect the production of toxins. ELISA tests for toxins A or Poison B also provide quick treatment time and high privacy.4.5 Treatment in February 2018, the American Infectious Diseases Association (IDSA) and the American Healthcare Epidemiology Society (SHEA) released an update in cdi clinical practice guidelines for adults and children, which included new recommendations.4 Includes the largest change from previous CDI treatment guidelines. Metronidazole is no longer recommended as a first-line adult treatment. Vancomycin Oral Vidaxumin is now supported as first-line options for both the initial non-sharp and hard links of CDI. This change stems from evidence that ensures that symptoms are resolved and resolved continuously after one month of treatment. Metronidazole is only recommended for nonsevere initial seizures when patients are unable to get or be treated with oral vancomycin or fidaxomicin. Repeated or prolonged treatment cycles should be avoided due to the risk of neurotoxicity. Patients with CDI fulminant should receive vancomycin 500 mg 4 times daily in combination with iv metridozoole. For repeated CDI, metronidozole should not be used. If metonidazole is used for initial treatment, patients should receive oral vancomycin. If vancomycin is used as a primary treatment, Vancomycin can be administered again but as a mastermind and pulse system, or vidaxsomesin can be used. In the second or subsequent iteration, patients can be treated with oral vancomycin, fidaxomicin, or fecal implantation. The guidelines do not recommend extending CDI therapy beyond the recommended course of treatment and do not recommend the experimental restarting of CDI therapy for a patient who requires continuous antibiotic treatment. TABLE 1 presents treatment recommendations from the updated guidelines for 2018.4 Vancomycin Vancomycin Vancomycin is a glycoppeptide that prevents the synthesis of the bacterial cell wall by preventing glycopated polymerization by binding to the D-anil-d-alanine part of the cell wall precursors. Oral vancomycin is given to treat CDI and is systematically absorbed to achieve higher concentrations in the colon. The negative effects of oral vancomycin include Pain, dysgeusia, nausea, headache, flatulence, peripheral edema.6,7 Fidaxumicin vidaxumisin (Dificid) is an antibacterial macrolide drug that is a bactericidal against c difficile in vitro, inhibiting RNA synthesis by RNA polymeraseses; Approved in May 2011. This is indicated for adults aged 18 years and over for the treatment of c difficile-related diarrhea. To reduce drug-resistant bacteria and maintain effectiveness, fidaxomicin should only be used to treat infections that have either been proven or strongly suspected to be caused by Difficile C. The recommended dosage is 200 mg orally twice daily for 10 days with or without food. FDA approval was based on two randomized, double-blind, non-genomic trials that compared fidaxomicin with vancomycin. The initial results were the rate of clinical response at the end of treatment based on improvement in diarrhea or other symptoms and a continuous clinical response 25 days after the end of treatment. Both endpoints have been achieved to show that Vidaxumisin is not mviri to Vancomycin. Reported adverse events include nausea, vomiting, abdominal pain, gastrointestinal bleeding, anemia, and neuropathy.8,9 refaxine refaxin prevents bacterial RNA synthesis by linking bacterial RNA polymerase. Revaxin is recommended in the guidelines as an adjuvanting treatment system after vancomycin 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 mtronidazole metruzole is nitromidazole which reacts with DNA to cause the loss of comic DNA structure and broken strand resulting in inhibition of protein synthesis and cell death in exposed organisms. Oral metronidozol is 100% biological. However, there is a low concentration of drugs at the site of infection due to systemic absorption, which is believed to contribute to a decrease in the effectiveness of moderate and severe cases of CDI. Reported adverse effects include headache, nausea, metallic taste, dizziness and abdominal pain.6,11 Stool microbiota implantation current guidelines recommend stool microbial transplantation for patients with multiple recurrences of CDI who seought antibiotic treatment. It is estimated that the digestive system has more than 160 bacterial species, with the majority residing within the colon. Since antibiotics suppress the growth of natural gut bacteria, pathogens such as C difficile can multiply. Butyrate is a short-chain fatty acid (SCFA) produced by bacteria that tend to be depleted in CDI. SCFA is important for energy production, immune function, and natural intestinal microbial growth. Repeated CDI also reduces bacteria and Firmicutes, which are dominant intestinal flora. These strains of bacteria can be replanted by implanting feces from healthy individuals restoring the natural biodiversity of the intestines. Average healing rates for CDI is reported to be 91% to 96% with fecal implantation. A variety of management methods have been reported in literature including nasal administration, rectal candle, laparoscopic administration, and oral preparations for frozen fecal microbial implant capsules.2,4 Bezlotoxumab adjuvant therapy (Zinplava), a human monoclonal antibody associated with cdifficile B toxins, was approved in October 2016. Reducing CDI frequency is indicated in patients 18 years of age or older who receive antibacterial treatment to treat CDI and are at high risk of CDI recurrence. This drug was recently approved, after the completion of the updated guidelines, and therefore will be included in future guidelines.12-14 Bezlotoxumab is not referred to for CDI treatment because it is not an antibacterial drug and should be used only in conjunction with the treatment of antibacterial drugs. Bezlotuxumab prevents the binding of poison B and prevents its effects on mammalian cells. The recommended dose is 10 mg/kg as the fourth infusion is not related to 60 minutes.13 FDA approval was based on two Phase 3 trials, modified I and II. Both studies covered more than 1,000 patients in multiple countries and were conducted in both hospitals and outpatient clinics. The initial result was evaluated within 12 weeks after a drug administration study. In both the first and second modifications, cdi was less repeated with bezlotoxumab than with placebo in patient groups with previous episodes of CDI, infection with bi/NAP1/027 strain, severe CDI, age 65 years and above, immunity at risk. Negative effects included nausea, perxia, and headaches. In those with a history of congestive heart failure (CHF), heart failure occurred in 12.7% of patients treated with bezlotoxumab compared with 4.8% in the placebo group. Patients treated at Bezlotoxumab also had a higher mortality rate than patients treated with placebo. Therefore, in patients with chf history, systoumab must be reserved for use when the benefits outweigh the risks.12-14 The 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 reducing the patient's risk by supervising antimicrobials. The immediate initiation and administration of antibiotics has been shown to reduce morbidity. However, it is estimated that 20% to 50% of all antibiotics prescribed in U.S. hospitals are unnecessary or inappropriate. Inappropriate use of antibiotics not only contributes to antibiotic resistance, but also increases the likelihood of adverse events for patients such as CDI. The pharmacist's involvement in antibiotic supervision programs improves the treatment of infection by selecting appropriate antibiotics and reducing the escalation of treatment when applicable, and has been shown to significantly reduce hospital rates for CDI.15 pharmacists are also able to provide patient education to prevent cdi proliferation. Patients should. Learners to wash their hands with soap and water every time they use the bathroom and always before eating. Anyone caring for a patient with CDI should take precautions such as using gowns and gloves to prevent proliferation. At home, CDI patients with diarrhea should use a separate bath if possible. Surfaces can be cleaned with a combination of bleach and water.16 By staying informed of treatment updates such as those in the SHEA/IDSA 2018 guidelines, pharmacists can also help other healthcare providers implement appropriate treatment for this potentially life-threatening pathogen. References 1. CDC. What is C. diff? 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