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Mini Review

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Clinical Approach of Clostridium Difficile-Associated Diarrhea (CDAD) Treatment by Oral Vancomycin of Isolated Stool Samples of Contaminated Drinking Water in Basrah, Iraq

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Abstract

The aim of this study to trend the clinical treatment of clostridium difficile infected patient by oral vancomycin with lowering of patient risk through control of antibiotic's prescription in hospitals. Clostridium difficile is common cause in inflammation of colon, symptoms of abdominal pain/tenderness diarrhea, fever and colitis. If not carefully managed, it will be possible prognosis to life-threatening cases of mega colon and multi-organ failure. Clinical approach in treatment of C. difficile infection (CDI), was by using (FIRVANQ™) contains vancomycin reconstituted oral glucopeptide preparation of 15g vancomycin, which is given to 20 cases of teenage, were admitted in polyclinic in summer (2019), Basrah governate, IRAQ to treat C. difficile-associated diarrhea outbreak depending on therapeutic oral vancomycin as multiple dose of 40 mg/kg for several days.

Keywords: Clostridium difficile; Colitis; Vancomycin; Megacolon

Introduction

Clostridium difficile, is spore-forming gram positive infected bacteria lead to diarrhea and colitis. Prognosis of serious cases can manifested in pseudomembranous colitis, septicemia, and mega colon multi-organ failure. A half-million people were infected each year according to CDC estimation [1]. The abuse of oral antibiotic, a weak immune body and recent hospitalizations are the main risk factors for C. difficile [1,2].

The fecal-oral route, airborne environmental dispersal in hospitals and hand to hand contact will to spread on of C. difficile spores.

With extended mono antibiotic or combined antibiotics use along with chemotherapy, gastrointestinal surgery, and use of acid-suppressing medications like proton pump inhibitors or histamine-2 blockers further increase of CDI symptoms developing [3]. Symptoms of CDI include The diarrhea with loose watery stools, fever, frequent bowel movement, loss of appetite, pain, nausea for several days are early symptoms of infected CDI case. The suppression of normal bowel microbiota by intake of macrolide antibiotics including clindamycin, cephalosporins, penicillins, and fluoroquinolones will allow C difficile to flourish [4]. C. difficile producing toxin A, is more potent which results in diarrhea and colitis.

Clinical Treatment Approach

Diagnosis of CDI patients was done via stools samples [4]. The oral administration of Vancomycin is minimally systemically absorbed to achieve higher concentrations in the colon. The abdominal pain, dysgeusia, nausea, headache and flatulence are the recommended adverse effects [5,6]. 20 cases of young ages (8-14 years old) with diagnosed CDI were treated with oral FIRVANQ™ (vancomycin), in dose regimen of 40mg/kg in multiple divided doses for 7 to 10 days with maximum does not exceed 2g [7-9]. Metronidazole as a pioneer momotherapy choice is used in combination with vancomycin indose regimen of 500mg metronidazole 3 times daily by mouth for 10 days [4,10]. The vancomycin concentration after reconstitution solution was 50mg/ml.

Adjunctive Therapy

All patients were given paracetamol infusion together with the dextrose-saline in recommended doses for fever control and to avoid dehydration symptoms.

Discussion and Conclusion

The clinical pharmacist can play considerable guide in trending treatment protocol of infectious disease by the proper prescription of antibiotic to alleviate patient risk through in hospitals and educated patient to depend on appropriate personal hygiene in pandemic health crisis to avoid outbreak of CDI [5,6]. In moderate to severe initial episode of CDI, oral vancomycin is to be first line of therapy over the injectable route to improve the recovery time with support of pharmacokinetic properties of oral preparation.

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