



Gastro-ID Case Review

- **Patient History:** 35yr old healthy female, no history of colitis, diarrhea, change in diet, or current ABX use
- **Symptoms/Disease State:** Patient had abdominal pain and diarrhea for 4 days straight and ended up in the emergency room. CT scan showed inflammation of entire abdomen, results of stool specimen from hospital lab came back negative, and a colonoscopy was scheduled for later that week.
- **Why Test was Ordered:** It was unknown what was causing pain, diarrhea, and inflammation so Vikor's Gastro ID test was performed.
- **Outcome:** Results showed Cryptosporidium and EPEC with resistance genes for Macrolides and Tetracycline. Cryptosporidium is a parasite that causes the diarrheal disease cryptosporidiosis. It is spread several different ways but the most common is contaminated drinking water and recreational water. The parasite is protected by an outer shell that allows it to survive outside the body for long periods of time and makes it very tolerant to chlorine disinfection. Because detection of Cryptosporidium can be difficult, patients may be asked to submit several stool samples (at least 3) over several days. Results from colonoscopy diagnosed patient with mild colitis due to infection. Without Vikor's test, the cause of infection would still be unknown. The GI specialist who performed colonoscopy treated patient according to our PharmD's recommendations and shortly thereafter, patient was feeling much better as symptoms lessened.

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www.vikorscientific.com



Patient Name



Date of Birth

XX-XX-1986



Gender

undisclosed



Race

UNDISCLOSED

Facility Information

Ordering Provider:

Facility:

Facility Phone:

Facility Fax:

Specimen Information

ACC:

Collection Date: 07-26-2021

Received Date: 07-27-2021

Notes:

Report Date: 07-28-2021

Sample Type: Rectal/Stool Swab

Laboratory Results

PATHOGENS DETECTED

Table with 3 columns: Pathogen, Concentration, and Percentage. Rows include Cryptosporidium and Escherichia EPEC.

RESISTANCE GENES DETECTED & POTENTIAL MED CLASS AFFECTED

Table with 3 columns: Gene, Medication Class, and Alert Icon. Rows include ermB/Macrolides and tetM/Tetracycline.

ABXAssist™

Pharmacy Guidance Provided by:



Electronically approved on 07-28-2021 by: Margaret Pate

Email: pharmconsult@vikorscientific.com Phone: 1-855-742-7635, 1-855-PharmD5

Drug Allergies:

NKDA

Notes from Ordering Physician:

Notes from Pharmacist:

- 1) Most patients with cryptosporidiosis have mild to moderate symptoms...
2) Escherichia EPEC: Hydration, avoid antiperistaltic drugs, discontinue empiric antibiotic treatment...

MEDICATION REVIEW

Medication

Route

Dose



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FIRST LINE

ciprofloxacin

oral

500mg BID x3-5 days

Considerations: Covers EPEC.
Fluoroquinolones have been associated with serious and possible irreversible reactions; tendonitis/tendon rupture, peripheral neuropathy, CNS effects. These may occur all together or months after tx. Increased risk in patients over 60 and pt on corticosteroids. Avoid in Myasthenia Gravis and pregnancy. Reserve for pts with no alternative tx options for acute bacterial sinusitis, acute bacterial exacerbation of chronic bronchitis, or uncomplicated UTI. Adjust dose for CrCl <50ml/min.

SECOND LINE

cefixime

oral

400mg PO QD-BID x7-14d

Considerations: Covers EPEC.
Renally dose adjusted.

Methodology	The infectious disease and antibiotic resistance detection panels are tested utilizing Real-time PCR technology to detect the presence of genes associated with pathogens and antibiotic resistance via amplification of genomic DNA. Amplification and detection are performed using the Applied Biosystems™ QuantStudio™ 12K Flex Real-time PCR system, which includes the QuantStudio™ 12k Software v1.3 and Thermo Fisher Scientific TaqMan™ assays. The assays are preloaded onto TaqMan™ OpenArray plates.
Limitations	This test only detects microorganisms and antibiotic resistance (ABR) genes specified in the panel. ABR genes are detected in the specimen and are not specific to a detected pathogen. ABR genes may be detected in bacterial strains not tested for in the panel. The resistance genes for Ampicillin, selected Extended-Spectrum-Betalactamases, Vancomycin, Carbapenems, Sulfonamide, Trimethoprim, Aminoglycosides and the Quinolone gyrase groupings are assays customized by pooling the individual genes listed in the associated group. If listed as positive, this indicates that at least one of the genes in the group was detected and the class of medication could have potential resistance.
Disclaimer	This test was developed and its performance characteristics determined by Vikor Scientific™. It has not been cleared or approved by the FDA. The laboratory is regulated under CLIA as qualified to perform high complexity testing. This test is used for clinical purposes. It should not be regarded as investigational or for research. Pharmacy guidance and recommendations therein are not under the purview of the laboratory or agencies which accredit the laboratory. The treatment guidance listed in the report is based on infectious disease treatment references, the organisms detected, and genes known to contribute to medication resistance. Important clinical information such as comorbidities, renal function, patient weight, platelet count, microbiology results, etc. may influence the overall appropriateness of therapy. The provided guidance only takes drug allergies into account when they are provided and available to the pharmacist making the recommendation. The overall appropriateness of therapy must be determined by the physician treating the patient. The provider has all the patient information necessary to make that determination and should take the entire clinical presentation into account when making treatment decisions. Should the treating physician wish to discuss the provided guidance, the pharmacist is available for consult at the email and phone number provided.



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NEGATIVE PATHOGENS

- Astrovirus
- C. Dificille Toxin A & B
- Campylobacter jejuni
- Entamoeba histolytica
- Escherichia EAEC
- Escherichia EIEC/Shigella
- Escherichia ETEC
- Giardia lamblia
- H. pylori
- Intestinal adenovirus
- Norovirus GI/GII
- Plesiomonas shigelloides
- Rotavirus A
- Rotavirus B
- Rotavirus C
- Salmonella
- Sapovirus
- Shigella
- Staphylococcus aureus, enterotoxins A/B
- Vibrio cholerae
- Yersinia enterocolitica

NEGATIVE RESISTANCE GENES

- aac6-1b/aacA4, ant(3), aph(A6), aac6-1b-cr
- ampC, ACC, DHA, ACT/MIR
- SULL, DFRA
- PER-1, PER-2, VEB, blaNDM-1, OXA-1, GES, BlaSHV
- OXA-23, OXA-40, OXA-58, OXA-72, IMP-16, NDM, blaOXA-48, OXA-48, KPC, VIM, IMP-7
- TEM, TEM E102K, TEM R162S, TEM G238S
- CTX-M
- ermC, ermA
- mecA
- mcr-1
- QnrB, Gyrase A D87N_GTT, Gyrase A S83L_TGG, QnrA
- VanB, VanA1, VanA2

ANTIBIOTIC CLASS

- Aminoglycosides
- AmpC beta lactamase
- Bactrim
- Beta-lactams
- Carbapenems
- Class A Beta-lactams
- ClassA Beta-lactamases
- Macrolides
- Methicillin
- Polymyxins
- Quinolones
- Vancomycin