

An Oral Fecal Transplant for Lunch?- Frankly Speaking EP 53

Transcript Details

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Dr. Frank Domino:

Your 69-year-old patient with COPD comes in for a post-hospitalization visit. He had COPD exacerbation and was diagnosed with pneumonia, and was treated with heavy antibiotics. When you start discussing his symptoms today, he states overall he's feeling much better from his respiratory standpoint, but he's got a horrible case of diarrhea and you start to worry about C difficile. Joining me on today's program is Robert Baldor, professor and senior vice chair in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School. Welcome to the show, Bob.

Bob Baldor, MD:

Thanks, Frank. Glad to be back.

Dr. Frank Domino:

Help me figure out what to do with this patient. He's in, he's just been given intravenous antibiotics. You have limited information from the hospital and he's having profuse watery diarrhea.

Bob Baldor, MD:

Well, yeah. You definitely need to be thinking about C difficile colitis as a condition for him. He's clearly at a risk for this and should be tested and treated. And actually, the reason I wanted to

talk about this today is 'cause recently in the news, there's been a lot about what we call FMT, which is Fecal Microbial Transplant and how best to do that. So I think there's been a lot of interest in that technology. But let's back up a little bit to just talk about C diff first, does that make sense?

Dr. Frank Domino:

Absolutely.

Bob Baldor, MD:

You present a patient who is at high risk for C diff. And that's really the one you want to be testing on. And the trouble with the testing is that you're testing for the bacteria, the *Clostridium difficile* bacteria. But just 'cause the bacteria is there it doesn't mean that you have the illness. You're looking for the toxin. And not all C diff are toxigenic. So you really want a clinical scenario, we have somebody who's having diarrhea. Really more than three loose stools in a day and has had a clinical... Risk factors to be thinking about C diff. So recent hospitalization, recent use of antibiotics as you present with this gentleman. In the last six weeks, is kinda what people talk about for recent. A previous C diff infection within the last six months, it could be a recurrence. And also the elderly. The elderly are at higher risk as well, even if they don't necessarily have or had a recent antibiotic or a recent hospitalization. Those are the folks... Okay, let's test those folks to see what's going on.

So the gold standard had been actually do a culture, and we culture things for a long time. Now the culture of course, the problem with that is you can detect if it's C diff, but you still don't know whether it's the toxigenic or not, as part of that, and cultures take two or three days. Like most things in microbiology now, we're seeing a change from doing culturing, to doing a DNA testing, and that's the PCR, preliminary testing that's done, looking for the genes specific for the C diff. But like culture, it doesn't tell you... It'll tell you if C diff is there, but it doesn't tell you whether it's the toxigenic or not. So you have to really be looking, doing an assessment for the toxin. The toxin, it's an enzyme amino assay that you're doing for the toxin, and there's two toxins, toxin A and B. The trouble with this is that the PCR testing or the enzyme amino assay testing for the

antigens or the genes for C diff, highly sensitive, highly specific, but they don't tell you whether you've got the toxin. The test for toxin has a high false negative rate with it. Because there's other tests.

One test is... One liquid stool sample is sufficient for testing and you get those results back in a hour by the way, if your lab is set up to do that, versus a culture. The toxins though, you have to have a sufficient amount of toxin in the stool sample in order for the assay to pick it up, so you can have a false negative. If you're doing the toxin testing, you're probably gonna maybe send two or three samples to be clear that you have it or not.

Some people are talking about doing... There's some algorithms out there for testing where you would do the PCR testing to see if the organism is there, and then do the toxin testing as well. Looking for both of those to be positive, to say you've got... You have the colitis. I've been using the word colitis, this is known as pseudomembranous colitis. The other thing to do is a KUB, and the radiologist will look for very classic findings to say, "Hey, this is consistent with pseudomembranous colitis." If you're seeing that on the X-ray, most likely that's a C diff infection as well. Although it doesn't mean that it's not a C diff infection, if they don't see those classic findings on X-rays.

Dr. Frank Domino:

Okay. You have this high risk patient, you test them, and one option is to get a stool test for toxin, possibly get a KUB. Any or all of those turn positive. What should we think about initial treatment? And then let's talk a little bit about resistance.

Bob Baldor, MD:

Yeah. One other thing while we're talking about testing. Because of the issues with... The fact that the antigen, that the bacteria will be there, there's no recommendations to be testing while you're doing treatment to see if it goes away or for follow up doing a test-for-cure. Don't do that. Follow a patient clinically to decide whether they're improved. Because those tests remain positive ongoing. No recommendations for a test-of-cure. So treatment. The standard for

treatment right now pretty much is Vancomycin. You're giving Vancomycin, 125 milligrams, four times a day for 10 days. That's for first recurrence of this and that really is what we're using. There's another drug out there that's also a newer macrolide. It's Fidaxomicin and that's only used twice a day. It's 200 milligrams twice a day. It's about ten times the cost as the Vancomycin, so that's something to be aware of.

Dr. Frank Domino:

Something more expensive than oral Vancomycin. Amazing. What about Metronidazole? Are we not using that anymore?

Bob Baldor, MD:

Yeah, turns out there are higher failure rates with Metronidazole, with it. Metronidazole though, if you couldn't get the Vanco or the Fidaxomicin, you would use the Metronidazole. That is also there for first lane treatment.

Dr. Frank Domino:

Alright. So let's move on to fecal transplantation. What's going on there?

Bob Baldor, MD:

So just quickly, the trouble with this illness is it tends to recur. So if you have a first recurrence, you do another course of Vancomycin, if you had a second recurrence, then you do a pulse course of Vancomycin, where you're doing a tapering course of Vancomycin over really a two month period. And then if they fail that, that's when we're talking about doing the FMT, the fecal microbiotal transplant. And because... So that's the group we're talking about. The trouble with this is that it's not an FDA... It's an FDA-approved procedure, but you or I can't just order it for the patient. You have to... Where do you get this basically? You get healthy donors and you collect feces from them. A lot of testing is done to ensure that the feces is... And you're not gonna transmit other illnesses to the patient.

And by the way, you would certainly think, "Hmm, if I'm gonna get a fecal transplant, why don't I

get it from a family member?" You don't wanna do that because if you're living in the same household, there's likelihood that they may be a C diff carrier. So anyways, so what this has been done is a slurry is made of a stool sample from a healthy donor and this has traditionally been given via colonoscopy. And it's about a, almost a half pound of slurry is injected into the colon, but that goes all the way up into the terminal ileum because the terminal ileum can have the C diff as well. So that's why you need a colonoscopy to do this. And so that's injected throughout the colon and the patient has to hang on to this for about six hours to keep it in there to do this.

So people have been looking for other alternatives. They've done it via a G-tube and now recently saying, "Can you do this by encapsulating the transplant and taking it orally." So, a couple of studies have been looking at this and this was great. This is this recent... They actually did a randomized clinical trial looking at this, where they compared using, taking 40 capsules versus colonoscopy and a randomized control trial showed that the success rate was as good with the oral route as using colonoscopy. Why is this all important? It's because right now, we don't have any FDA approval for this. In order to get FDA approval, you have to show efficacy, we've shown efficacy, but you also have to show safety and there's been concerns around the safety.

So basically, this is just another study out there that's showing safety and efficacy of using the oral route that's out there. Now where do you get this? You or I can't prescribe it, there are very centers around that are doing this, there's some commercially prepared preparations that people can get. But for right now, because it's not really an FDA approved product, it's not easily done. But I gotta tell you though, reading the literature on this and reading what's other there, if you have a patient with recurrent C diff, find locally or regionally where they can get FMT because it really looks to me like it's the way to go if you've exhausted your course of Vancomycin.

Dr. Frank Domino:

It certainly sounds like the future, Bob. Especially we're seeing so much C difficile in the hospital setting, we're gonna see significantly more resistance in the outpatient setting. This is wonderful. It sounds relatively cost effective and once you get over the ick factor, it sounds like another

future where we're gonna help solve a fairly serious problem with a very simple solution. Thanks so much for bringing this idea forward, Bob.

Bob Baldor, MD:

Thanks for asking me. And I gotta tell you, the ick factor, they looked at that as part of these studies and apparently there's just as much ick factor with taking it orally as people having colonoscopies, so we gotta get past that. But it looks like really... This is moving forward and I would like to see FDA approval in the next year or two. Make it a little easier for other people to have access to the therapy.

Dr. Frank Domino:

Great. Thanks again, Bob. Practice pointer. Diagnosing C difficile in the outpatient setting requires testing for toxin, and if negative, considering further work up in the right clinical circumstance as false negatives are common. Join us next time when we discuss the influence of coffee drinking on a variety of health outcomes including mortality, cancer and heart disease risk.