

I wasn't even the most populated bacteria at first. No one noticed me because there were so many other different bacteria types around me - we all had different abilities, sizes, and shapes. My small colony went utterly unnoticed. I was ignored, much to my dismay.

By then, when the antibiotic came, everything changed.

The other bacteria groups were killed off. It's because cephalosporin, a broad-spectrum antibiotic that can be used to treat urinary tract infections, was given (Beckett et al., 2015). But Cephalosphin is a beast. It wiped out a huge portion of the healthy microbiota, just because it could. Just because it wanted to. I saw DNA strands breaking in half, protein translation being sabotaged, cell division "mysteriously stopping", and everything in between (Kohanski et al., 2010).

Suddenly, I was no longer just another bacteria group floating in the abyss. Before, the gut microbiome worked to stop me from spreading too much. But now I was one of the very few left, so I got to work. My name - *C. difficile* - would be known everywhere. I'm actually quite rare in the absence of previous antibiotic exposure, but now cephalosphin made it easy for me to take over (Beckett et al., 2015). I traveled down to the large intestine because it's my area of expertise and I can release tissue-damaging toxins there (Mayo clinic, 2014).

Though I am in one single body, my army has been growing all over the United States. In fact, I've caused 250,000 illnesses and 14,000 deaths each year through my infections (Beckett et al., 2015). Though I naturally want to take control over someone's cellular process, you can't possibly blame me! The use of antibiotics everywhere has made it easier for normal bacteria to die off, and for me to gain strength.

Now, although I have found more space to be an intestinal and invasive bacteria, I must actually admit that I feel quite bad. Bacteria have feelings too. I wasn't in the body of some random jerk who kills puppies for fun; I was in the body of a sweet old grandmother, named Geraldine. I can hear the conversations she has through her body, and let me just tell you that she is the sweetest woman out there.

She's currently staying at a nursing home facility in rural Mississippi. At first, I didn't hear much from her except from the routine small talk with staff, and whether the chicken that day was "dry as bone". (Imagine that phrase in a southern accent. Isn't that just delightful?)

But around two months ago she started talking a little more, I think because of some nice girl who's been stopping by to visit twice a week. At first they didn't chat much and it was mostly the same stuff I heard before. But eventually, Geraldine started opening up a little more and I got to hear about all the absolutely wonderful things in her life.

As it turns out, she was a florist in Mississippi for 46 years. She loved her job so much that she would show up to work with a smile on her face, dream about flowers in her sleep, and give her loved ones special bouquets that perfectly matched their style. I even felt her last week taking a stroll outside with this girl, and Geraldine was naming all the outside flowers and trees like it was nobody's business.

She has two children and a couple of grandchildren, though it's a lot for them to visit since the area is spaced out. Since it's September, it seems like everyone's busy with getting back to work and school. But even if they're a little away, Geraldine can list her favorite things about

all of them—like how her daughter is obsessed with Oolong tea and has loved it since she was six, or how her grandson really wants Nike shoes for Christmas and has been extra good at doing chores, or how her son-in-law is the kindest the man she has ever met and prays for his happy marriage to her daughter.

Now imagine me, right? I'm out here feeling absolutely terrible. Horrifying. Hideous. And every other synonym for horrible that you can think of. I was expanding my *C. difficile* colony as much as I could, but just because I was naturally programmed to do so. In reality I wanted to stop, and save Geraldine because it was the least she deserves, and I didn't want to imagine a world without her.

A few nights after the antibiotic was given, I could feel her coughing and running a fever, and I wanted so badly to leave. I was getting worried. It got to the point where she had to be transported to the nearest medical center, which was a long 45 minutes away.

Her children came to visit her and I could tell she was getting a little worried. I overheard them making plans to move Geraldine to Massachusetts, where her daughter just recently moved, so that she can be closer to her. And so a few days out and a flight later, she was relocated to another nursing home in Massachusetts.

She still seemed to be in the same conditions as she was in before - for a few days, at least. I could feel her still going for a walk though, just like she had done before with the girl from Mississippi. This facility also had a better standard of care - they had better patient call systems, catheters, disinfectants, and infectious disease personnel that got her more up-to-date and safer medication.

I sensed her walking more and getting her steps in. Even if it didn't seem like much relative to everyone else out there, having extra physical exercise, or having extra conversations with friends and outside people, kept her more attentive when trying to communicate her symptoms to her doctor. This time, the doctor was able to prescribe her something a little safer because she was able to express her symptoms more clearly, and the doctor was overall more trained. I think small things make a difference like that, especially in conjunction with higher-quality care.

Eventually, I started to fade away little by little. A diverse gut microbiome started to form again, and though it wasn't quite the same, it was enough to keep me at bay. Truth be told I wanted to go even though colonizing the intestine was written in my genes. Why would I ever want to hurt Geraldine?

Now that I have less intestinal conquering to do, I've been reflecting on what I have seen so far. Though I'm happy that Geraldine is doing better now, what about all the other people who may be at risk for my infection at her old facility? They deserve the same access, medical protocols, and treatments that she's been getting! Their location shouldn't matter nearly as much as it does now.

I just hope the other Geraldines can avoid me at all costs.

## References

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