

Look What the Cat Dragged In! Community-Acquired *Clostridioides difficile* Infection From a Household Cat

Manuel Garza¹, Braden Thomas¹, Adam Saleh², Eleonora Avenatti¹, Lara Nabbout¹, Neha Mathur¹, Eamonn Quigley¹

¹Division of Gastroenterology, Department of Medicine, Houston Methodist Hospital

²Texas A&M University, Engineering Medicine, Houston, United States

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BACKGROUND

Risk factors for *Clostridioides difficile* infections (CDI) classically include antibiotic exposure, hospital or nursing home stays, inflammatory bowel disease, or a weakened immune systems. There is an increasing incidence of community-associated CDI (CA-CDI) in persons without these classic risk factors.¹ This rise in incidence has implicated natural reservoirs, including zoonosis.² Our case describes a recurrent CA-CDI acquired from a household cat.

CASE

- 31-year-old woman with PMHx of UTIs and endometriosis presented with one week of fever and diarrhea, abdominal cramps, nausea, and vomiting
- Septic on admission, febrile to 102°F, HR 133, WBC count 13,950 cells/ μ L, lactic acid 2.8 mg/dL, CT Abdomen/Pelvis showed colonic wall thickening, stool tested positive for *C. difficile* by PCR
- Recurrent CA-CDI over next 8 months (as illustrated in timeline) with positive PCR and toxin on subsequent testing
- On IM clinic visit, she described that her cat was a new pet she had adopted around the initial symptom onset
- Cat tested by veterinarian and found to be *C. difficile* positive; received treatment per patient

Timeline and Figure

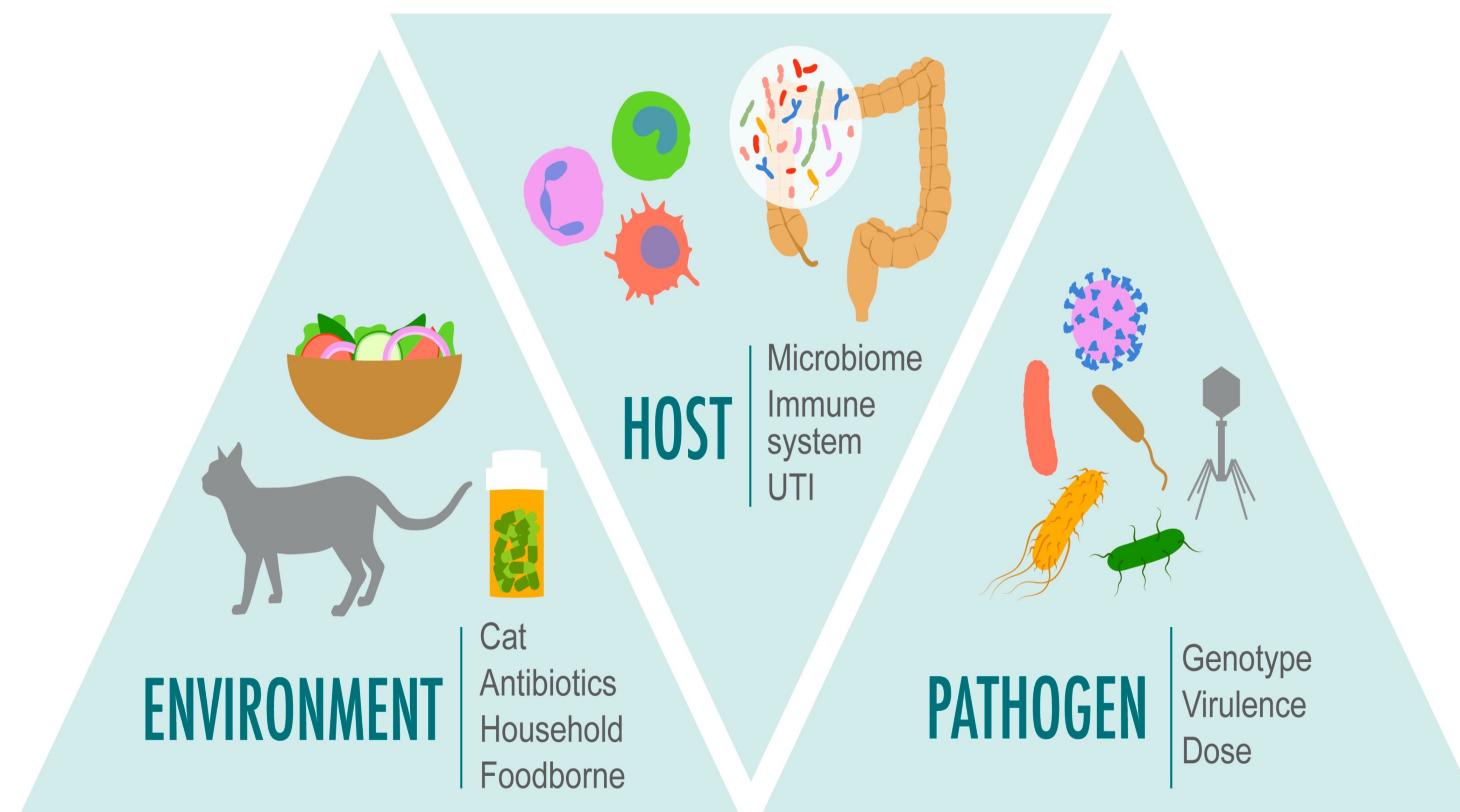
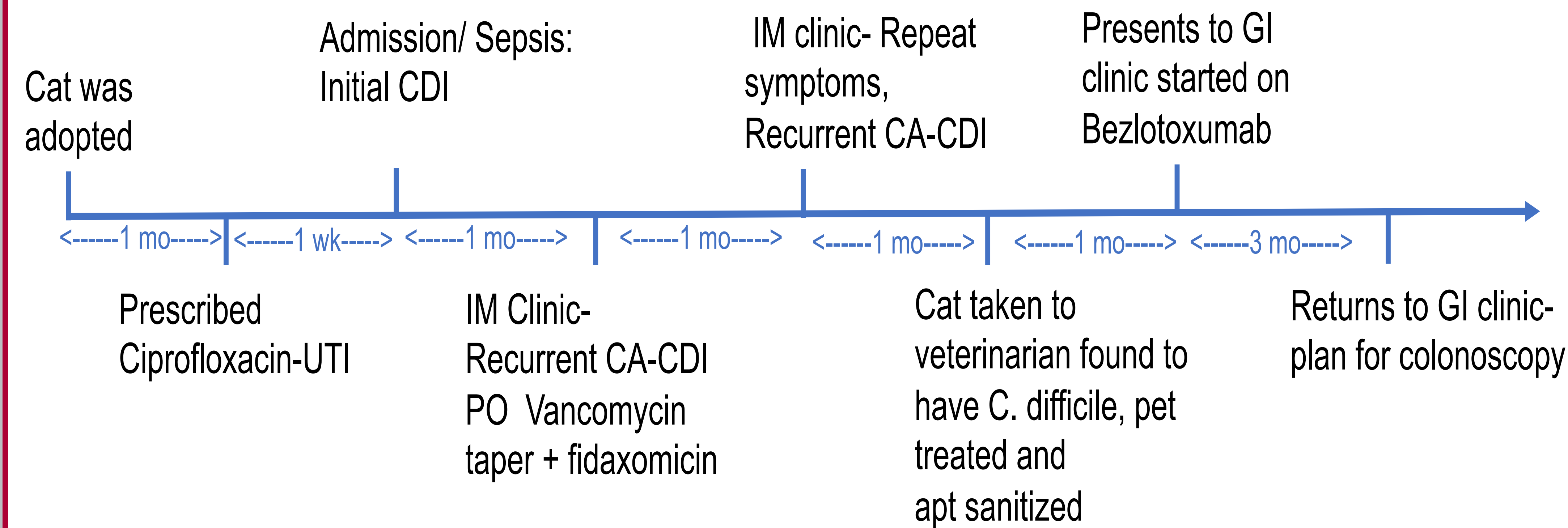


Fig. 1. This graphic depicts the epidemiological triangle of infectious disease. Focusing on the interaction between the host, the environment and the pathogen can help us understand this rare case of community acquired *C. difficile*.

DISCUSSION

C. difficile acquisition from this patient's household cat represents a novel presentation of CA-CADI. We believe that antibiotic use permitted seeding of her GI tract by *C. difficile* acquired from her cat, supported by the close temporal relationship between the cat's adoption and symptom onset. Evidence that humans can pass *C. difficile* to cats makes it more likely that her multiple recurrent CA-CDIs derived from this natural reservoir. Studies have shown isolates of pathogenic clones of *C. difficile* in cat feces, specifically, genotype RT 014; however, there is no evidence that this bacterium is pathogenic to cats.² A recent study in Houston, Texas, identified pathogenic *C. difficile* spore frequency in household and public environments were comparable to hospital settings.³ This case emphasized the importance of history taking, contact (pet) tracing, reduction in excessive antibiotic use and proper instruction on hand-washing and sterilization of household surfaces in recurrent CA-CDI.

REFERENCES

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