Open Forum Infectious Diseases
RESPONSE TO LETTER TO THE EDITOR

Reply to Boodman et al

Dear Editor,

We thank Dr. Boodman and Dr. Gupta for their informative letter to the editor [1] regarding our case series of *Bartonella* endocarditis [2], and we also appreciate the opportunity to respond. Although we agree with most of the excellent points included in the correspondence, we do not believe that our manuscript misled the journal readership that *B. henselae* is the predominant etiology of *Bartonella* endocarditis or implied that cat exposure is a mental shortcut for *B. henselae* infection.

We included in the title a colloquial expression to "cat"-ch the attention of your readership, but we stated in the first paragraph that cats are reservoirs for different species of *Bartonella* that can cause blood culture–negative endocarditis [3]. Due to limited species-level data and population heterogenicity in prior reports, it is unknown which is the most common species of *Bartonella* causing endocarditis, but we agree with the authors that *B. quintana* is likely the most common etiology. The most recent study of *Bartonella* endocarditis with the largest number of patients and available species identification reported *B. quintana* in 53% of their cases, followed by *B. henselae* (43%) and *B. asiatica* (3%) [4]. Due to testing variability, we only had species identification in 1 patient with *B. henselae* by reverse transcription polymerase chain reaction (PCR; test performed in another institution), and 1 with *B. quintana* detected by 16S ribosomal RNA gene PCR. In another case, 16S rRNA PCR detected *Bartonella* sp. DNA closely related to *B. henselae* by sequencing.

We obtained information through chart review and found that "cat exposure" primarily referred to patients having a cat at home. Only 4 patients had documentation about cat scratches before diagnosis of *Bartonella* endocarditis, but the lack of more detailed information about animal interaction does not rule out *Bartonella* infection as it has been reported that patients do not consistently recall the occurrence of animal scratches, bites, or flea bites [5].

We did not include in the text or tables information about homelessness or pediculosis in our patients as there was no consistent documentation of these exposures in the charts, and we preferred to include only recorded known risk factors for *Bartonella* infection due to the word limit. One of our patients with a molecular diagnosis of *B. quintana* infection immigrated from Ethiopia to the United States more than a decade before presenting with endocarditis and had no documentation of other overseas travel, pediculosis, homelessness, or shelter exposure. *B. quintana* has been reported worldwide, with variable prevalence in certain regions related to differences in living conditions [4, 6, 7, 8]; known hosts include humans, dogs, cats, and macaques [3]. *B. quintana* infection is associated with crowded living situations that facilitate its transmission through pediculosis and possibly other vectors [3, 8].

Lastly, we strongly agree with Dr. Boodman and Dr. Gupta that molecular testing is needed to define *Bartonella* species. However, current endocarditis treatment guidelines do not recommend empiric or directed treatment differences based on *Bartonella* species [9]. Therefore, more research is needed to define if species identification may have an impact on the management and outcomes of *Bartonella* endocarditis.

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Eloy E. Ordaya, Omar M. Abu Saleh, and Maryam Mahmood

Division of Public Health, Infectious Diseases, and Occupational Medicine, Mayo Clinic, Rochester, Minnesota, USA

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Correspondence: Eloy E. Ordaya, MD, Division of Public Health, Infectious Diseases, and Occupational Medicine, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA (ordayaespinoza.eloy@mayo.edu).

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