Internal Medicine
The Japanese Society of Internal Medicine
doi: 10.2169/internalmedicine.2833-19
Intern Med 58: 2589, 2019
http://internmed.jp

【 LETTERS TO THE EDITOR 】

Infection of *Helicobacter cinaedi* Should Be Treated for an Adequate Duration with Combined Antibiotic Therapy

Key words: *Helicobacter cinaedi*, garenoxacin, minimal inhibitory concentration

(Intern Med 58: 2589, 2019)
(DOI: 10.2169/internalmedicine.2833-19)

To the Editor Infection of *Helicobacter cinaedi* should be treated for an adequate duration with combined antibiotic therapy.

We read the interesting article, "Bacteremia possibly caused by *Helicobacter cinaedi* (*H. cinaedi*) and associated with painful erythema in rheumatoid arthritis with malignant lymphoma," by Fujita et al. in *Internal Medicine* on December 15, 2018 (1). This clinical course reminds us physicians of the fact that this rare pathogen can cause intermittent febrile and painful erythema in immunosuppressed patients, even if it does not cause death. Three important clinical issues should be noted in relation to the infection of *H. cinaedi*: antibiotic susceptibility, duration of treatment, and virulence factors.

First, this microorganism is well known to be resistant to conventional fluoroquinolones, such as ciprofloxacin, levofloxacin, and moxifloxacin, in Japan (2). There are no reliable data related to garenoxacin.

Second, regarding the duration of treatment, 3 courses of fluoroquinolone treatment consisting of 5 days of moxifloxacin and 14 days of garenoxacin 2 times seem to have a modest effect in preventing the disease from deteriorating. Uckay et al. reported a case of recurrent bacteremia caused by *H. cinaedi* after the administration of chemotherapy (cyclophosphamide, doxorubicin, vincristine, prednisolone, methotrexate, and anti-CD20 antibody) in a 53-year-old woman with malignant lymphoma (3). Ceftriaxone and gentamicin for two weeks followed by peroral clarithromycin and additional levofloxacin for seven weeks were administered for her first episode, and her bacteremia had not recurred after ceftriaxone and doxycycline for two weeks followed by the oral combination of amoxicillin, metronidazole, and doxycycline for two months. Doxycycline was continued for another month for the second episode. This study showed that this pathogen requires relatively lengthy treatment in order to achieve a cure or prevent recurrence.

Finally, regarding virulence factors, Kawamura et al. described this spiral bacterium as having a low virulence because it has fewer virulence factors than other bacteria (4).

Considering the last two issues, the duration of treatment, and virulence factors, related to this patient, the administration of cytotoxic chemotherapies can lead to relapse or recurrence of infectious disease, even with a low-virulence bacteria. However, her clinical course was not congruent with these results.

We hypothesize that *H. cinaedi* was susceptible to garenoxacin, which may explain her clinical course. We wonder whether the authors checked the minimal inhibitory concentration of garenoxacin for this pathogen.

We hope that further investigations will be conducted regarding antimicrobial susceptibility, especially for newer quinolones, and appropriate therapeutic periods for this rare pathogen.

The authors state that they have no Conflict of Interest (COI).

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Received: February 10, 2019; Accepted: March 3, 2019; Advance Publication by J-STAGE: May 22, 2019
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