Periungual Abscess Caused by *Citrobacter braakii* in a Patient with Chronic Paronychia

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Dear Editor:

Citrobacter species, aerobic, gram-negative bacilli in the *Enterobacteriaceae* family, are normally present in the environment and do not usually cause disease in immunocompetent hosts¹. Chronic paronychia is an inflammatory reaction of the nail fold caused by exposure irritants or allergens that can lead to structural changes and increased susceptibility to infection.

A 68-year-old woman presented with a 5-day-old, painful grayish abscess (2.0×1.5 cm) on the dorsum of the right thumb (Fig. 1A). Medical history indicated that the patient had contact with a desiccator containing calcium chloride two days before skin eruption. The patient had no current medical issues or surgical history regarding the abscess, and was employed as a housemaid with frequent exposure to water and detergents. She had a 20-year history of chronic paronychia characterized by erythema and mild swelling aggravated by repeated detergent exposure. Topical antibiotics and detergent avoidance temporarily resolved symptoms. A local clinic prescribed 300 mg of roxithromycin daily, which had not resolved the lesion. The patient's lesion was incised and drained, and oral amoxicillin and pivoxyl sulbactam (250 mg each, 3 times daily for 7 days) were prescribed. Culture of lesion identified *Citrobacter braakii*. By day 7, the abscess had cleared, leaving mild skin excoriation, trachyonychia and Beau's

line, which ultimately resolved (Fig. 1B).

Chronic paronychia is an inflammation of the nail fold caused by factors including repetitive trauma and chemical exposure. As a result, the cuticle separates from the nail plate, forming a cleft between the nail fold and plate that predisposes the area to infection². Upon presentation at our clinic, the patient had a history of chronic paronychia aggravated by detergent exposure. A noticeable cleft was observed in the area of the lesion (Fig. 1B), and we believe that exposure of this cleft to bacteria in a desiccator may have resulted in infection.

Citrobacter species are uncommon cutaneous pathogens. Samonis et al.³ reported 5 cases of skin/soft tissue infection among 78 inpatients with confirmed *Citrobacter* isolates in a study at a Greek hospital. Single cases of folliculitis and skin ulcers caused by *Citrobacter* species in immunocompetent hosts⁴ have been reported, but there were no reports of *Citrobacter* infections manifesting as periungual abscesses.

Fig. 1. (A) A painful grayish 0.8×0.6 inch sized (2.0×1.5 cm) abscess on her right thumb in a 68-year-old women. (B) One week after incision and drainage with antibiotics treatment, the abscess cleared only leaving mild skin excoriation, trachyonychia and Beau's line, which all relieved afterwards.

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Antibiotic susceptibility differs among *Citrobacter* subtypes³ and treatment has been based on individual antimicrobial profiles. One study of 22 cases of *C. freundii* showed 100% resistance to erythromycin, ampicillin, and methicillin⁵. As was demonstrated in our case study, macrolides including erythromycin and roxithromycin (often indicated for gram positive/negative cocci infections) were ineffective treatments for *C. braakii*, a gram-negative bacillus. While oral amoxicillin and pivoxyl sulbactam were prescribed after incision and drainage (I&D) in our study, the *Citrobacter* isolate was resistant to amoxicillin. Therefore, the I&D procedure was primarily responsible for patient improvement.

To our knowledge, this is the first reported case of *C. braakii*-induced periungual abscess in a patient with chronic paronychia. Additional data on *Citrobacter* infections are needed to improve comprehension of risk factors, etiology, clinical features, and management of these infections.

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A Rare Cutaneous Adverse Reaction after Intra-Articular Injection of Hyaluronic Acid

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Dear Editor:

Hyaluronic acid (HA) is a high-molecular-weight polysaccharide found throughout the extracellular matrix and is one of the major components of articular joints. Intra-articular injection of HA is often performed for the treatment of symptomatic osteoarthritis. The efficacy of HA injection

in relieving pain and improving function in patients with osteoarthritis has been reported previously. Adverse reactions are usually limited to local reactions at the inoculation site, including transient local tenderness¹. Although HA has been acknowledged as safe, there have been many reports related to a variety of adverse effects to

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