

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.e-jmii.com](http://www.e-jmii.com)

## Correspondence

## *Capnocytophaga sputigena* pneumonia and bacteremia in a patient with diabetes and gastric cancer

Dear editor,

The pathogens of pneumonia or lung infections are various, however, the pathogens of some patients cannot be identified or very rare.<sup>1,2</sup> Here, we presented a case with malignancy and diabetes hospitalized with both pneumonia and bacteremia with a rare pathogen.

A 84 years old male with multi-organ disorders, including diabetetic seizure, old infarcts at the bilateral basal ganglia, left corona radiata, right thalamus, gastric cancer, type 2 diabetic mellitus, hypertension, and benign prostatic hyperplasia. He just discharged from the hospital due to pneumonia 20 days ago. He presented with chest tightness with fever and for 1 day, and was sent to emergency department of a medical center. After survey at ED, bilateral pneumonia with pleural effusion was diagnosed by chest X-ray with leukocytosis (WBC 18180/ $\mu$ l), thrombocytopenia (Platelet 10,800/ $\mu$ l), and C-reactive protein 55.4 mg/L. Two sets of blood culture collected one from emergency department and one from ward showed *Capnocytophaga sputigena*, which identified by both matrix-assisted laser desorption/ionization–time-of-flight mass spectrometry MALTI-TOF (Bruker) and 16S RNA sequencing. However, sputum culture did not grow this pathogen. He was treated with piperacillin/tazobactam, and the pneumonia improved after treatment.

The *C. sputigena* is one member of *Capnocytophaga* species, which are gram-negative bacilli with facultative, anaerobic, capnophilic characteristics. There are 9 species in genus *Capnocytophaga*, and the infections caused by these species are frequently related periodontal problem or animal bites. Both immunocompetent and immunocompromised hosts are potential patients infected with these species. This pathogen could cause various types of human infections, including abscesses, bacteremia, chorioamnionitis, empyema, endocarditis, osteomyelitis, pleuropneumonitis,

sinusitis, and septic abortion. *C. sputigena* is known to be present in normal oral flora, which might cause human infections, especially among immunocompromised patients.<sup>3,4</sup> *Capnocytophaga* species are found to be susceptible to a large number of antibiotics, of which penicillins, clindamycin, macrolides, broad-spectrum cephalosporins, and quinolones are outstanding examples.<sup>5</sup>



Figure 1. The initial Chest X-ray of the patient.

<https://doi.org/10.1016/j.jmii.2017.11.005>

1684-1182/Copyright © 2017, Taiwan Society of Microbiology. Published by Elsevier Taiwan LLC. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article in press as: Lo S-H, et al., *Capnocytophaga sputigena* pneumonia and bacteremia in a patient with diabetes and gastric cancer, Journal of Microbiology, Immunology and Infection (2017), <https://doi.org/10.1016/j.jmii.2017.11.005>

Infections caused by *Capnocytophaga* species are rare, and species-level biochemical identification is difficult; thus, cases of *C. sputigena* infection are rarer reported worldwide. Till now, there is no report about *C. sputigena* related both infection in Taiwan. Herein, we reported the first case with diabetes mellitus and gastric cancer presented with pneumonia and bacteremia by *C. sputigena* whose clinical condition improved after piperacillin/tazobactam treatment (see Fig. 1).

### Conflicts of interest

All the authors have nothing to disclose.

### Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jmii.2017.11.005>.

### References

1. Extensive community-acquired pneumonia with hemophagocytic syndrome caused by *Aeromonas veronii* in an immunocompetent patient. *J Microbiol Immunol Infect* 2017;50:555–6.
2. Pulmonary empyema caused by co-infections of *Mycoplasma pneumoniae* and *Fusobacterium necrophorum*: a rare case of lemierre syndrome. *J Microbiol Immunol Infect* 2017;50:557–8.
3. *Capnocytophaga sputigena* bacteremia in a patient with chronic lymphocytic leukemia. *Ann Lab Med* 2014;34:325–7.
4. *Capnocytophaga sputigena* empyema. *J Clin Microbiol* 2013;51:2772–4.
5. Bacteremia by multidrug-resistant *Capnocytophaga sputigena*. *J Clin Microbiol* 1994;32:1067–9.

Shih-Hao Lo  
Division of Infectious Diseases, Department of Internal  
Medicine, Kaohsiung Medical University Hospital,  
Kaohsiung Medical University, Kaohsiung, Taiwan

Yung-Yun Chang  
Division of General Medicine, Department of Internal  
Medicine, Kaohsiung Medical University Hospital,  
Kaohsiung Medical University, Kaohsiung, Taiwan

Ya-Ting Jao  
Infection Control Room, Kaohsiung Medical University  
Hospital, Kaohsiung, Taiwan

Wen-Hung Wang  
Division of Infectious Diseases, Department of Internal  
Medicine, Kaohsiung Medical University Hospital,  
Kaohsiung Medical University, Kaohsiung, Taiwan

Po-Liang Lu  
Division of Infectious Diseases, Department of Internal  
Medicine, Kaohsiung Medical University Hospital,  
Kaohsiung Medical University, Kaohsiung, Taiwan  
School of Medicine, Graduate Institute of Medicine, Sepsis  
Research Center, College of Medicine, Kaohsiung Medical  
University, Kaohsiung, Taiwan

Yen-Hsu Chen\*  
Division of Infectious Diseases, Department of Internal  
Medicine, Kaohsiung Medical University Hospital,  
Kaohsiung Medical University, Kaohsiung, Taiwan  
School of Medicine, Graduate Institute of Medicine, Sepsis  
Research Center, College of Medicine, Kaohsiung Medical  
University, Kaohsiung, Taiwan

Department of Biological Science and Technology, College  
of Biological Science and Technology, National Chiao Tung  
University, HsinChu, Taiwan

\*Corresponding author.  
E-mail address: [infchen@gmail.com](mailto:infchen@gmail.com) (Y.-H. Chen)

9 October 2017  
Available online ■ ■ ■