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Short Communication

A Rare Case of Pneumonia Caused By Raoultella Planticola

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ABSTRACT

A 40 year old male patient came with complains of productive cough associated with shortness of breath since 3 weeks. He was afebrile and maintained oxygen saturation at room temperature. He was a known smoker and did not have history of any co-morbidity. On examination, bilateral basal crept was noted. On chest imaging, features were suggestive of infective pneumonia with bilateral pleural effusion associated with left ventriculomegaly. Sputum culture revealed infecting organism to be *Raoultella planticola* (*R. planticola*).

INTRODUCTION

This case report aims to illustrate a rare pathogen capable of infecting humans causing a wide range of symptoms. Raoultella is a gram negative mobile bacillus which was first described in the 1980's under the name klebsiella platicola due to its phenotypic similarities with the genus klebsiella. It was reclassified into a new genus raoultella in the family *enterobacteriaceae* in 2001. It is an enviromental bacteria known to rarely cause infections in humans. Risk factors associated with *R. planticola* infection primarily include, an immunocompromised state, bacteremia, invasive medical procedures and exposure to aquatic or soil contaminants due to open wounds. Some literature state cardiac dysfunction as a risk factor too, though this has not been widely established. Majority of the reported cases have portrayed *R. planticola as an o*pportunistic pathogen, with only a handful of cases seen in immunocompetent individuals.

In this case study, we would like to report a rare case of *R. planticola* pneumonia in a immunocompetent individual without any known risk factors or possible exposure.

Case

A 40 year old male patient came to the emergency department with complains of productive cough associated with shortness of breath since 3 weeks. Patient was afebrile and maintained oxygen saturation at room temperature. He did not have any history of hypertension, diabetes or any other co-morbidity. He had no associated cardiac disease or was on any immunosuppressant drugs.

On examination, bilateral basal crept was noted. Chest radiograph was reported to have patchy areas of opacities predominantly in the bilateral lower zone with prominent bronchovascular marking. Bilateral pleural effusion extending into the lung fissures was also seen, these features were suggestive of infective etiology with respiratory exertion. HRCT chest revealed features suggestive of infective pneumonia with bilateral pleural effusion. Associated cardiomegaly with left ventricular dilatation was also seen. 2D-ECHO of the patient revealed left ventricular dysfunction. Blood work up showed no abnormal parameters to suggest immuno compromised state. Sputum smear did not reveal acid fast bacilli which ruled out pulmonary tuberculosis. Finally, on sputum culture infecting organism was found to be *R. planticola* which was sensitive to most drugs except ampicillin. Patient was diagnosed with infective pneumonia and dilated cardiomyopathy. On treatment, chest imaging features showed significant improvement including reduction in ventricular dilatation.

CONCLUSION

Based on the history of the patient, he was not exposed to any risk factors associated with *R. planticola* infection. His blood investigations did not show any abnormal parameter to suggest an immunocompromised state. However, on 2-D Echo showed left ventricular dysfunction. In recent years, infection by the *Raoultella* species has been recognized as an important emerging pathogen. One literature states that it is one of the most under-

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reported pathogen responsible causing various infections presenting with a range of symptoms. Few fatalities have been reported which have mostly been associated with bacteremia or infection by the drug resistant strain of R. planticola. Our study would also like to emphasize the possibility of the ventricular dysfunction as a risk factor for R. planticola infection or in this case, if the two conditions were separate entities.

REFERENCE

1. Harris KA, Hartley JC. Development of broad-range 16S rDNA PCR for use in the routine diagnostic clinical microbiology service. Journal of medical microbiology.
2. Sindhu S. Clinical Microbiology: Open Access.
3. Bottone EJ. Clinical Microbiology:
4. Guney AK. A study on class i integrons and antimicrobial resistance among clinical staphylococci isolates from a Turkish hospital.
5. Chu M, Xiao RX, Yin YN, Wang X, Chu ZY, Zhang MB, Ding R, Wang YD.
6. Fournier PE, Drancourt M, Colson P, Rolain JM, La Scola B, Raoult D. Modern clinical microbiology: new challenges and solutions.
7. Wain J, Mavrogiorgou E. Next-generation sequencing in clinical microbiology. Expert review of molecular diagnostics
8. Finch R, Beeching N, Phillips I. Meeting the challenges in clinical microbiology and infectious diseases. Clinical Microbiology and Infection.
9. Krasemann C, Meyer J, Tillotson G. Evaluation of the clinical microbiology profile of moxifloxacin. Clinical Infectious Diseases.
10. Aguado JM, Torre-Cisneros J, Fortún J, Benito N, Meije Y, Doblas A, Munoz P, Snydman DR. Tuberculosis in solid-organ transplant recipients: consensus statement of the group for the study of infection in transplant recipients (GESITRA) of the Spanish Society of Infectious Diseases and Clinical Microbiology.
11. Xiong ZQ. Metagenomic-guided antibiotics discovery.
12. Joshi RM. Middle east respiratory syndrome coronavirus (MERS-CoV): perceptions, predictions, preventions and the pilgrimage.
13. Kofteridis DP, Dimopoulou D, Maraki S, Valachis A, Galanakis I, Samonis G. Delayed-onset Mycobacterium tuberculosis prosthetic joint infection after hip hemiarthroplasty: a case report and review of the literature.
14. Joshi RM. Hepatitis E virus: a renewed hope with Hecolin.