Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 7, Issue, 08, pp.19098-19100, August, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

CASE REPORT

SERRATIA PNEUMONIA WITH PSEUDOHEMOPTYSIS IN AN IMMUNOCOMPETENT PATIENT

Pradeep Sharma, *Ashok K. Gupta, Neeru Mittal and Komaldeep Kaur

Christian Medical College and Hospital, Ludhiana, Punjab, India

ARTICLE INFO

Article History:
Received 15th May, 2015
Received in revised form
08th June, 2015
Accepted 03rd July, 2015
Published online 21st August, 2015

Key words:
Community acquired pneumonia,
Immunocompetent patient,
Pseudohemoptysis,
Serratia marcescens.

ABSTRACT

Serratia marcescens, a Gram-negative bacillus belonging to the Enterobacteriaceae family, is generally responsible for nosocomial infections. It produces reddish orange pigment named as prodigiosin. Community acquired pneumonia caused by *Serratia marcescens* in a healthy patient is very rare.A 38-year-old man presented with main complaints of cough, blood in sputum and fever. The sputum examination and bronchoalveolar lavage revealed that the patient had pseudohemoptysis due to *S. marcescens pneumonia*.Our patient presented with pseudohemoptysis due to *S. marcescens* although he was immunocompetent. This is a very rare reported case of community acquired Serratia pneumonia in an immunocompetent patient.

***Citation*:** Pradeep Sharma, Ashok K. Gupta, Neeru Mittal and Komaldeep Kaur, 2015. "Serratia pneumonia with Pseudohemoptysis in an Immunocompetent patient", *International Journal of Current Research*, 7, (8), 19098-19100.

INTRODUCTION

Serratia is an opportunistic Gram-negative bacillus more likely found in respiratory and urinary tracts of hospital patients (Haddy *et al*., 1996). Such infections have been associated with instrumentation of respiratory tracts. Healthy individuals rarely become infected with *Serratia marcescens*. It produces reddish orange tripyrrole pigment named as prodigiosin which may discolour respiratory secretions and is mistaken for haemoptysis (Hurtado *et al*., 1999; Bennett *et al*., 2000). Some cases of its association with community-acquired pneumonias, in immunocompromised patients have been reported. Present study reports a rare case of community acquired Serratia pneumonia occurred in an immunocompetent patient.

CASE REPORT

A 38-year-old man presented in the outpatient door complaining of cough with blood-tinged sputum and low grade fever, for the last 10 days. He was non-smoker, non-alcoholic, shopkeeper. He had no history of *Diabetes mellitus*, Tuberculosis etc. On examination, patient was afebrile, his blood pressure was 120/80 mm Hg, respiratory rate 16 per minute and oxygen saturation (SpO_2) was 95%. Lung auscultation revealed slight diminished air entry over the lower right chest with a few crepitations. General examination revealed no lymphadenopathy. Laboratory testing results showed that the patient had an elevated white blood cell count of 16,100 cells/μL, with neutrophilia. His hemoglobin level was 15.0 g/dL, with haematocrit of 48%; the platelet count was 432,000/L. The erythrocyte sedimentation rate was 89mm after the first hour. Liver and kidney function tests were within normal limits. Serologic studies for HIV, hepatitis B, and hepatitis C virus were negative. Sputum for AFB and tuberculin skin test was also negative. Blood sugar level was normal. Red blood cells were not observed in reddish sputum.

Chest X-radiography demonstrated right lower lung lobe opacification, and elevation of right hemi diaphragm (Fig.1). Chest high-resolution computed tomography scan revealed consolidation of the right lower lobe (Fig. 2). Fiberoptic bronchoscopy was planned and bronchoalveolar lavage fluid (BALF) was collected. The cytological results from the bronchoalveolar lavage fluid showed no malignancy. No red blood cells or hemosiderin-laden macrophages were seen. Microbiological culture of the BALF showed Serratia *marcescens*, which was found sensitive to chloramphenicol, gentamycin, ciprofloxacin, cefotaxime, cefoperazone, tobramycin, ofloxacin, ceftriaxone, piperacillin/tazobactum and amikacin.

Corresponding author: Ashok K. Gupta
Christian Medical College and Hospital, Ludhiana, Punjab, India

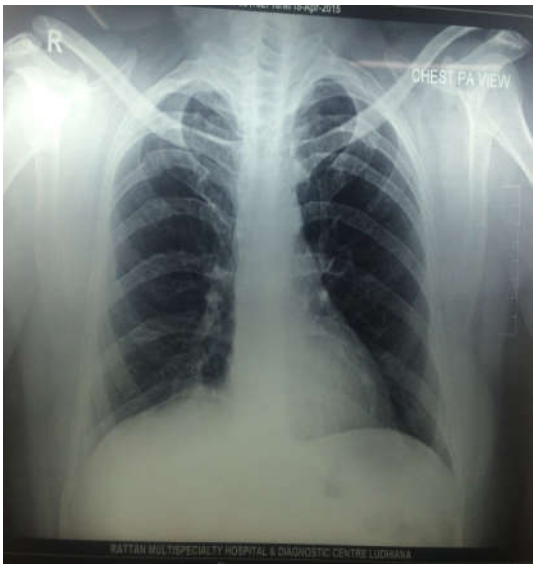

Fig. 1. Chest X-radiograph showing right lower lobe consolidation with elevation of right hemi diaphragm

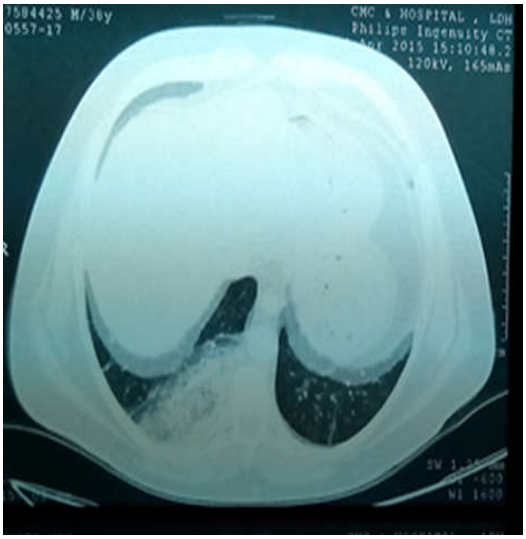

Fig. 2. HRCT Chest showing consolidation of right lower lobe

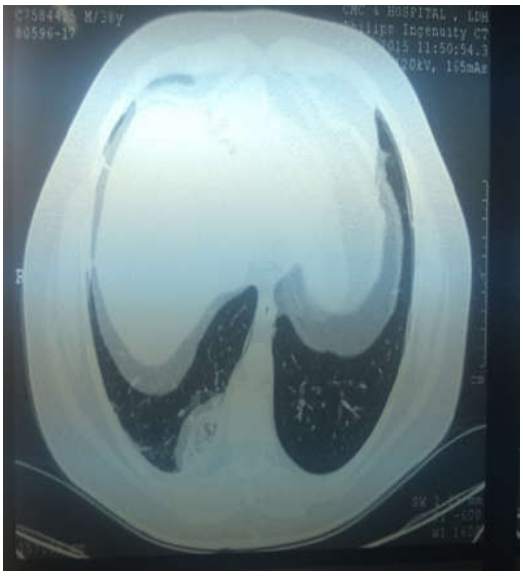

Fig. 3. HRCT Thorax revealing improvement

The smear for acid-fast bacilli was negative, and culture for mycobacteria remained negative after 6 weeks. The patient was treated with cefoperazone 1.0g IV twice daily and amikacin (750 mg) IV daily for 10 days. After the five days of treatment, there was no fever and cough, and the reddish appearance of the sputum completely resolved. On follow-up after 10 days, chest x-radiography and HRCT (Fig.3) showed improvement, so treatment was revised with ofloxacin 200mg twice daily for next 2 weeks and cefoperazone and amikacin was stopped. After 1-month follow-up, the patient remained asymptomatic, and on chest x-radiography the infiltrate was completely resolved.

DISCUSSION

This is a case of pseudohemoptysis due to pulmonary infection with *S. marcescens* .*S. marcescens* is a Gram-negative, bacillus belonging to family Enterobacteriaceae, commonly found in soil, water, plants, and human gut flora. It produces the red pigment prodigiosin. It is responsible for nosocomial infections in immune compromised patients; very rarely it causes community acquired pneumonia in healthy patients. In present case, haemoptysis complained by patient was in fact pseudohaemoptysis, because no evidence of red blood cell found on microscopy. Our results are similar to previously reported cases (Zarogoulidis *et al*., 2011; Rastogi *et al*., 2002) however, our patient was immunocompetent while Zarogoulidis *et al*., 2011 reported *Serratia pneumonia* associated with Sarcoidosis. Similarly, Girard *et al*., 2004 reported five cases and reviewed 65 additional cases of opportunistic infections associated with sarcoidosis and the majority of these occurred in patients receiving corticosteroids and were accompanied by CD4 lymphocytopenia. Miyakawa *et al*., 2015 reported *Serratia marcescens* lung abscess in a diabetic patient's. Therefore to the best of our knowledge this is first case of community acquired pneumonia caused by Serratia marcescens in an immunocompetent patient.

Conclusion

In summary, the present report describes a very rare case of community acquired Serratia pneumonia in an immunocompetent patient.

Consent

Written informed consent was obtained from the patient upon discharge for publication of this case report and all accompanying images.

Acknowledgments

All authors contributed equally to the preparation of the manuscript.

Disclosure

The authors declare that they have no conflicts of interest in this work.

REFERENCES

Bennett, J.W., Bentley, R., 2000. Seeing red the story of prodigiosin. A*dvances ApplMicrobiol.,* 47:1-32.

Girard, N., Cottin, V., Hot, A., Etienne-Mastroianni, B., Chidiac, C., Cordier, J.F. 2004. Opportunistic infections and sarcoidosis. *Rev Mal Respir*., 21:1083–1090.

Haddy, R.I., Mann, B.L., Nadkarni, D. D.,*et al*. 1996. Nosocomial infection in the community hospital: severe infection due to Serratia species. *J FamPract*., 42:273–277.

Hurtado Ayuso, J.E., Otero Candelera, R., Lopez Casanova, C. 1999. Pseudohemoptysis due to *Serratia marcescens*, an etiology to remember. *Arch Bronconeumol*., 35:194–195.

Miyakawa, K., Goto, Y., Sunohara, M., Yasunaga, H., Nagase, T.2015.*Serratia marcescens*lung abscess with review of a Japanese national inpatient database. *Case Reports in Internal Med.,* 2 (2):40-43.

Rastogi, V., Purohit, P., Peters, B.P., Nirwan, P. S.2002. Pulmonary infection with *Serratia marcescens. Indian J Med Microbiol*. 20:167-168.

Zarogoulidis, P., Porpodis, K., Konoglou, M., Saroglou, M., *et al*. 2011. Serratia pneumonia presenting as haemoptysis in a patient with sarcoidosis:a case report. *International J Gen Med*., 4:661-664.

****