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### **Pantoea agglomerans bacteremia: A rare case of spontaneous human infection by a plant pathogen in an immunocompromised host.**

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# *Pantoea agglomerans* bacteremia: A rare case of spontaneous human Infection by a plant pathogen in an immunocompromised host

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## Introduction

*Pantoea agglomerans* is a Gram negative ubiquitous bacteria of Enterobacteriaceae family, commonly isolated from plant surfaces, seeds, fruits and animal/human feces usually introduced to human by ingestion of infected plants, thorn pricks and gastrointestinal translocation in lack of stomach acidity.

However, the pathogen can also cause opportunistic human infection especially when the immune system is impaired. This case report aims to investigate clinical features in a patient with *P. agglomerans* bacteremia and bring attention the opportunistic infection by this rare bacterium.

## Case report

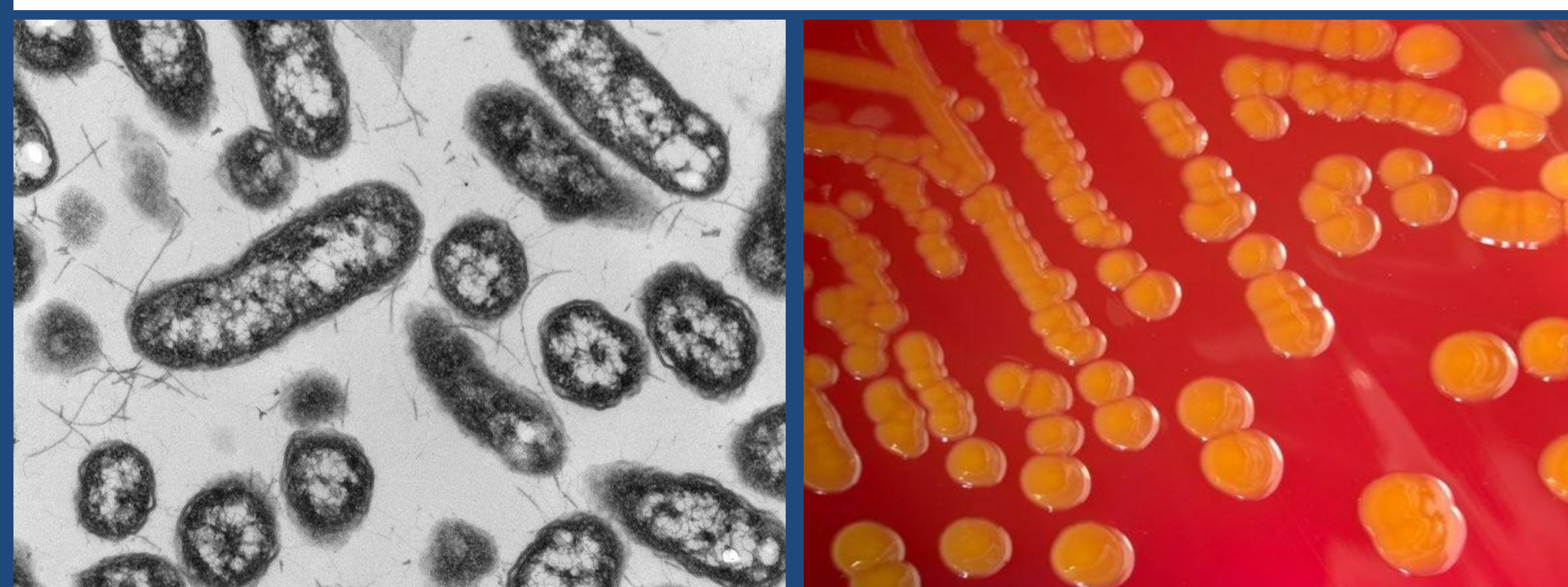
A 57 year old caucasian lady with past medical history of Chronic Obstructive Pulmonary Disease, Atrial fibrillation, Immunoglobulin (IgG) deficiency, recurrent pneumonia, urine infection, oral/vaginal Candidiasis and Gastro-esophageal reflux disease who presented with chief complain of increased shortness of breath, chest tightness and productive cough without fever/chills for one week.

She also had high INR of 4.7 (target 2-3) despite taking normal dose of Warfarin. She denied plant exposure/injuries. Her vitals were stable except decreased oxygen saturation, responding well to oxygen supplementation. Chest exam revealed very poor air entry bilaterally suggesting exacerbation of COPD. Oral thrush was present.

## Case report continued

Recent IgG level within last 6 months was low of 500 (Normal 620-1400), the cause of which was unknown. Blood culture in one out of the two samples grew *Pantoea agglomerans*, pan-sensitive to most of the antibiotics including Ceftriaxone.

Chest X ray, CT scan abdomen and urine studies could not localize the source of infection. However, urine analysis revealed high WBC with negative nitrite and leukocyte esterase. Repeat blood cultures were negative. She responded well to Ceftriaxone with symptomatic relief and INR was normalized to therapeutic range. She was discharged to nursing facility after 10 days of proper treatment.



Electron microscopy and culture of *P. agglomerans*

## Discussion and conclusion

•*P. agglomerans* is a rare cause of blood, wound, respiratory and urinary infection which usually presents as fever, chills and general toxicity, but can also present as a cause of exacerbation of chronic diseases, usually in an immunocompromised host.

•Bacteremia can lead to disseminated disease and has been reported to cause septic arthritis, endophthalmitis, endocarditis and osteomyelitis.

## Discussion and conclusion cont.

•Spontaneous infection can occur in a immunocompromised host. Usually the bacteria has been found to have low virulence and mild clinical course with timely antibiotics resulting in a favorable outcome. However, cases of multi drug resistant infections have also been reported.

•Several cases of *P. agglomerans* infections have been reported in HIV positive, post surgical and other immunodeficient patients with respiratory symptoms with or without TB.

•Hence, *P. agglomerans* should always be borne in mind while encountering bacteremia in an immunocompromised patients with respiratory, blood or urine infection and also in patients with plant borne external injuries, which demands proper antibiotics coverage for resolution.

## References

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