



# Lactobacillus: Friend or Foe

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## Background

- *Lactobacillus spp* are facultative, gram-positive, rod-shaped bacteria that are part of the normal human commensal
- They are sold commercially as dietary supplements
- Although generally considered non-pathogenic, *lactobacillus* have been implicated in serious complications and diseases such as urinary tract infections, infective endocarditis, meningitis, liver and splenic abscess

## Objectives

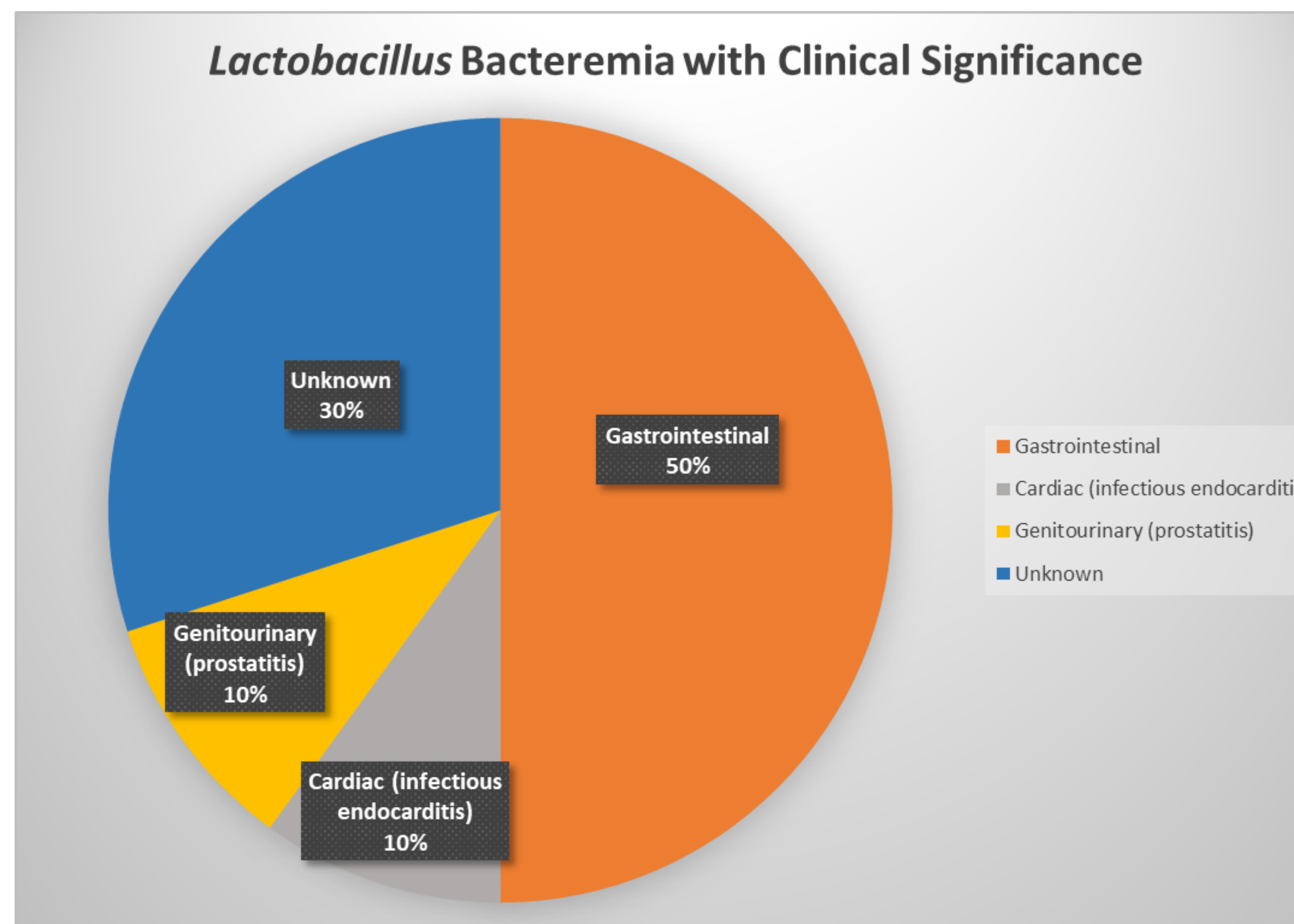
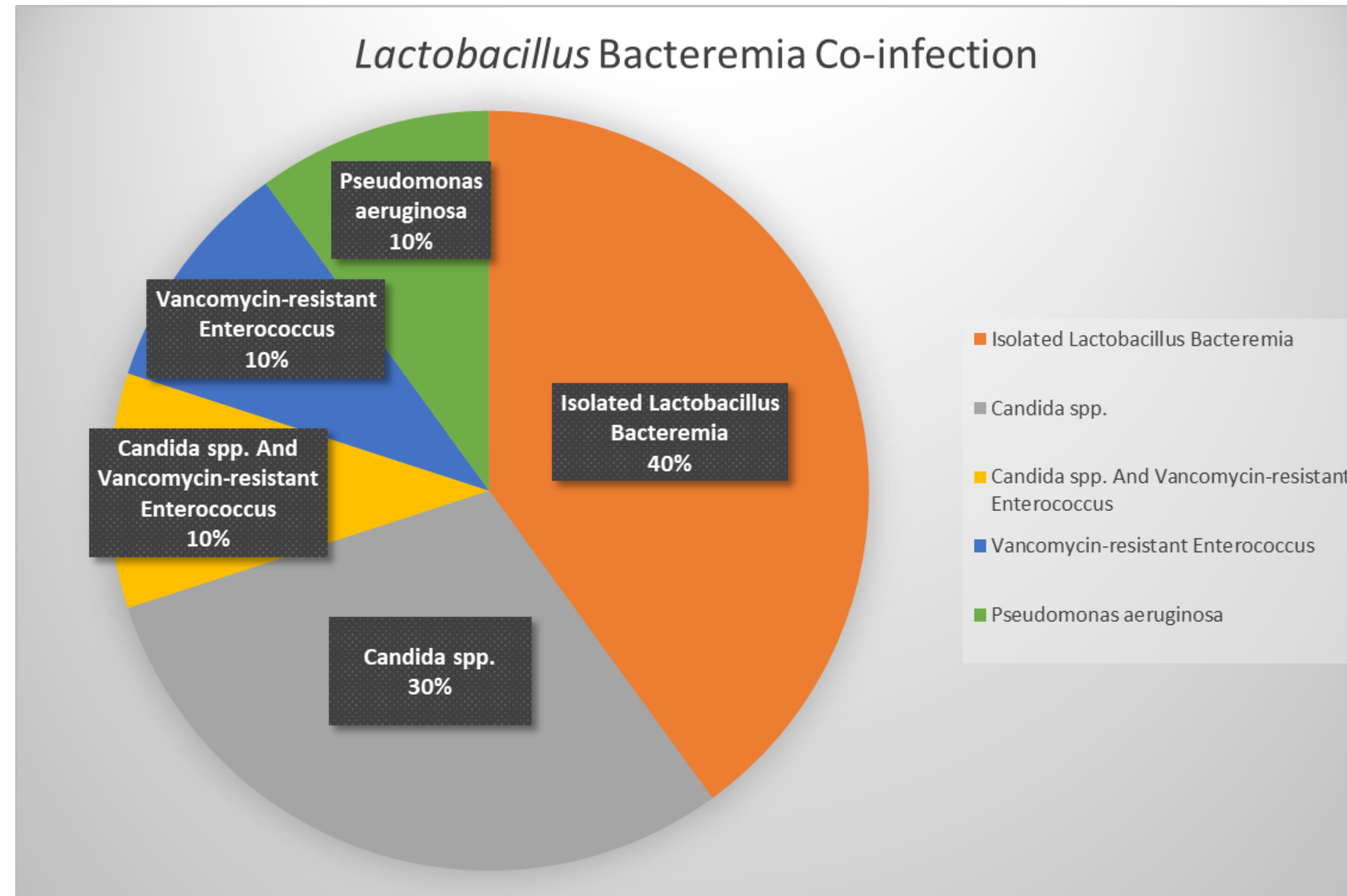
- To characterize the clinical significance and outcomes in patients with *Lactobacillus* bacteremia infection

## Methods

- We systematically reviewed the medical history and clinical course of patients with *Lactobacillus* bacteremia who presented to Maimonides Medical Center between January 2017 to December 2018 to determine predisposing risk factors and their clinical outcomes

## Results

- Of the 14 included subjects, nine (64.3%) were males; majority had no recent use of probiotics containing *lactobacilli*; and ten (71.4%) categorized as true cases of *Lactobacillus* bacteremia.
- True cases were generally older compared to subjects categorized as contaminant (80.1 vs. 54 years), and all 4 cases of death occurred in individuals with true pathogen .
- The gastrointestinal system was implicated as the most common source of *Lactobacillus* bacteremia infection.
- Overall, our analyses indicate that *Lactobacillus* bacteremia more frequently occurred in subjects with older age, prolonged hospitalization, and pre-existing heart disease .
- >1 positive bottles were more likely to have clinical significance
- In a restricted analysis of true cases of *Lactobacillus* bacteremia, *Candida* and *Lactobacillus* co-occurred in 40%, and VRE and *Lactobacillus* in 20% of the 10 subjects .



## Discussion and Conclusion

- Of note, all cases of death occurred in individuals with confirmed infection with *Lactobacillus*.
- Our analyses suggest that older age, prolonged hospitalization and the presence of underlying comorbid conditions may predispose infected individuals to higher susceptibility of serious clinical outcomes.
- However, our analyses are limited by the small sample size. Therefore, further analyses involving larger sample sizes and utilizing robust statistical analysis methods are needed to delineate the risk factors predisposing infected individuals to serious clinical outcomes.
- In conclusion, while *Lactobacilli* are generally non-pathogenic organisms, their presence in the blood may not be a contaminant but indicative of clinically meaningful infection capable of inducing serious complications and fatal illnesses.

## References

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