Kluyvera Ascorbata septicemia secondary to lower limb arteritis : A case report

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Contextualization

Kluyvera ascorbata is the type species of the bacterial genus Kluyvera, a gram-negative bacillus belonging to the Enterobacteriaceae family. Although it rarely causes infections, it can be an opportunistic human pathogen responsible for a wide range of infections, including severe sepsis. Our aim is to report a case of Kluyvera Ascorbata septicemia complicating obliterative arteriopathy (arteritis) of the lower limb in a patient hospitalized at the Mohammed VI university hospital VI Oujda (Morocco).

Observation

The patient was 72 years old, male, diabetic, hypertensive, with a history of acute coronary syndrome complicated by atrial fibrillation. Admitted to the vascular surgery department for management of intermittent claudication associated with trophic disorders and ulcerations in the feet and toes of both lower limbs. The patient underwent Doppler ultrasonography, which revealed arteritis of both lower limbs. Biological tests revealed signs of infection, with predominantly neutrophilic hyperleukocytosis and elevated CRP. A superficial pus sample was sent to the central laboratory's microbiology department for culture and identification of the causative germ, in order to initiate specific antibiotic therapy. The patient underwent endovascular treatment with angioplasty. Septicemia developed and both lower limbs were amputated.

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Results

Microscopic analysis and staining revealed Gram-negative, asporulated bacilli. Culture revealed convex, smooth, grayish-white, circular colonies in blood agar medium, catalase positive and oxidase negative. Final identification using BD Phoenix® concluded that Kluyvera ascorbata was present. Antibiotic susceptibility testing was carried out in accordance with the recommendations of the European Committee for Antimicrobial Susceptibility Testing, and interpreted in accordance with the annually revised CA-SFM/EUCAST recommendations, revealing that the bacterial strain isolated was resistant to all antibiotics tested, with the exception of Piperacillin-Tazobactam, Mecillinam, Imipenem, Meropenem and Nitrofurantoin.

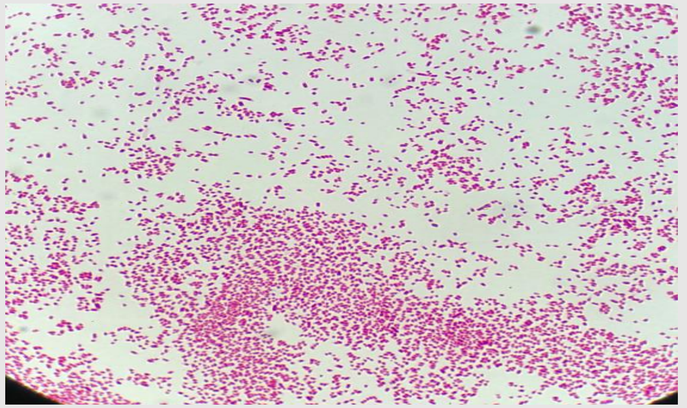

Figure 1: Microscopic image of Kluyvera ascorbata after GRAM staining

Figure2: Blood agar culture of Kluyvera ascorbata

Discussion

Originally described by Kluyver and van Niell in 1936, and further documented by Asai et al. in 1956. The Kluyvera bacterium was not fully defined until 1981. This bacillus was initially considered a benign pathogen, which can be found in the respiratory tract, gastrointestinal tract and urinary tract. Over the past 30 years, it has been observed to be responsible for multiple severe infections at different sites, including bacteremia, wound superinfections, respiratory, digestive and urinary tract infections.

Conclusion

Kluyvera ascorbata is an opportunistic microorganism, recently described as a cause of fulminant bacteremia and sepsis. Clinicians need to be aware of its potential for resistance, in order to institute appropriate treatment to avoid morbidity and mortality.

Références

[1] Kluyvera ascorbata infections in children: a case series? 2015 Jun 1. doi: 10.5152/tpa.2015.923
[2] Kluyvera ascorbata: An Unusual Cause of Septic Shock in a Patient With Urothelial Cancer. 2023 Dec 25. doi: 10.7759/cureus.51057
[3] Acute cholecystitis and bacteremia caused by Kluyvera ascorbata in a cirrhotic patient. DOI:https://doi.org/10.1111/j.1469-0691.1998.tb00370.x