



ISSN: 0976-3376

Available Online at <http://www.journalajst.com>

ASIAN JOURNAL OF
SCIENCE AND TECHNOLOGY

Asian Journal of Science and Technology
Vol. 17, Issue, 05, pp. 14276-14277, May, 2026

RESEARCH ARTICLE

A RARE CASE OF NEONATAL SEPSIS DUE TO *STAPHYLOCOCCUS KLOOSII* IN A LATE-PRETERM INFANT WITH CONGENITAL HEART DEFECTS

Salwa M Alfituri*¹ and Aisha M Alfituri²

¹University of Benghazi, Faculty of Medicine, Al Mraj

²University of Benghazi, Faculty of Medicine. Benghazi

ARTICLE INFO

Article History:

Received 09th February, 2026

Received in revised form

21st March, 2026

Accepted 11th April, 2026

Published online 30th May, 2026

Key words:

Neonatal sepsis,
Staphylococcus kloosii,
Animal-associated organisms.

*Corresponding author:

Salwa M Alfituri

ABSTRACT

Neonatal sepsis is a significant cause of morbidity, with most cases attributed to common pathogens. However, infections caused by atypical, animal-associated organisms, such as *Staphylococcus kloosii*, pose unique diagnostic and management challenges. This report highlights a late-preterm infant born to a diabetic mother with multiple congenital cardiac anomalies who developed sepsis due to this unexpected organism. Notably, this case represents the first documented neonatal infection and the third overall human case of *Staphylococcus kloosii* infection, with the previous two cases reported in elderly patients.

Citation: Salwa M Alfituri and Aisha M Alfituri. 2026. "Removal of Nutrient Salts: Comparative Study of Biosorbents Derived from Cocoa and Rubber Agricultural Wastes", *Asian Journal of Science and Technology*, 17, (05), 14276-14277.

Copyright©2026, Salwa M Alfituri and Aisha M Alfituri. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Staphylococcus kloosii is a Gram-positive, coagulase-negative bacterium belonging to the genus *Staphylococcus*, first described by Schleifer et al. in 1985. It typically appears as single, paired, or clustered cocci. [1] Colonies of *S. kloosii* are yellowish or non-pigmented, measuring 3–6 mm in diameter after two days incubation at 37 °C on Brain Heart Infusion Agar [1] Some strains exhibit hemolytic activity. [2] The bacterium is aerobic, with a growth temperature range of 25–42 °C, and can grow on Trypticase Soy Agar with or without 5% sheep blood or BHI agar. [2] The bacterium is resistant to novobiocin, erythromycin, and bacitracin. [3] *S. kloosii* has been isolated from the skin of various wild animals, including squirrels, wild marsupials, raccoons, opossums, sheep, dogs, and pigs, as well as from their ectoparasites, such as fleas. Additionally, an orange pigment-producing strain was isolated from the respiratory tree of the sea cucumber, *Holothuria leucospilota*, in Malaysian waters. [3] While *S. kloosii* is primarily associated with animals, there have been rare instances of human isolation. For example, a strain was isolated from an ankle wound of an elderly female patient in rural Saskatchewan, Canada, and also from a 60-year-old male patient with an intracranial bleed and sepsis in India. The latter was linezolid-resistant. [4]

CASE PRESENTATION

A male infant from Sabha, Libya was born at 36 weeks via cesarean section to a diabetic mother living in rural area with a contact with many animals including cats.

The baby was presented as a very growth-restricted baby with a low Apgar score. Post-resuscitation with oxygen, the infant stabilized and was noted to have multiple congenital cardiac anomalies, including ventricular septal defect (VSD), patent foramen ovale (PFO), and patent ductus arteriosus (PDA). On the second day of life, the infant developed clinical signs of sepsis. Blood cultures identified *Staphylococcus kloosii*, a rarely reported pathogen in neonates. Antimicrobial susceptibility testing and organism identification were done by automated machine (BD PHOENIX). Notably, this case represents the first documented neonatal infection and the third overall human case of *Staphylococcus kloosii* infection, with the previous two cases reported in elderly patients. The bacterium was resistant to Methicillin, Linezolid, Oxacillin, Cefotaxime, Vancomycin, Teicoplanin, Clindamycin, Erythromycin, Rifampin, Tetracycline, Ampicillin, and Penicillin G. However, it was sensitive to Gentamycin, Mupirocin, Ciprofloxacin, and Trimethoprim-sulfamethoxazole. Aggressive management with appropriate antibiotics and supportive care led to resolution of the infection. The infant was discharged after seven days with a multidisciplinary follow-up plan.

CONCLUSION

This case represents one of the few documented instances of neonatal sepsis caused by *Staphylococcus kloosii*, highlighting its potential role as a rare pathogen in vulnerable populations. Early identification and targeted treatment were critical for a favorable outcome. Further studies are needed to understand the epidemiology and clinical implications of this rare organism in neonatal care.

Acknowledgment

We thank the patient's father with power of attorney for his permission to report the present finding. We also thank the lab staff for excellent clerical assistance

REFERENCES

Annals of Clinical Case Reports. 2021. Isolation of *Staphylococcus kloosii* from an ankle wound. *Ann Clin Case Rep*, 6(2), 8353.

Schleifer, K. H., et al. 1985. *Staphylococcus kloosii*, a new coagulase-negative species. *International Journal of Systematic Bacteriology*, 35(1), 91-98.

Tan, L. T. H., et al. 2013. Isolation of a pigmented *Staphylococcus kloosii* strain from a sea cucumber. *Microbial Ecology*, 66(4), 940-950.

Tindall, B. J. 2014. Taxonomic note on the *Staphylococcus* genus. *Bergey's Manual of Systematics of Archaea and Bacteria*.

Winn, W. C., Allen, S. D., Janda, W. M., et al. 2006. *Koneman's Color Atlas and Textbook of Diagnostic Microbiology*. 6th Edition, Lippincott Williams & Wilkins.
