MICRO BIOTEC 23

CONGRESS OF **MICROBIOLOGY**
AND **BIOTECHNOLOGY 2023**

BOOK OF ABSTRACTS

DECEMBER
7TH - 9TH

UNIVERSIDADE DA **BEIRA INTERIOR**
Covilhã

P4.61 - EXPLORING THE VIRULENCE POTENTIAL OF CC152 AND CC121 *S. AUREUS* STRAINS RELATED TO PEDIATRIC COMMUNITY-ACQUIRED BACTERAEMIA IN THE MANHIÇA DISTRICT HOSPITAL, MOZAMBIQUE

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Keywords: *Staphylococcus aureus*; pediatric bacteraemia; PVL; biofilm; *Galleria mellonella.*

ABSTRACT

Staphylococcus aureus is one of the most frequent causes of bacteraemia in humans. This bacterium displays a variety of virulence traits that allow the establishment and maintenance of infection, such as the Panton-Valentine leucocidin (PVL), encoded by the *lukSF-PV* genes, and the ability to form biofilms. This study aimed to describe the virulence profile of *S. aureus* causing bacteraemia (SAB) in children in Mozambique.

We analyzed 336 *S. aureus* isolated from blood cultures of children (<5 years) admitted to the Manhiça District Hospital between 2001 and 2019, previously characterized for antibiotic susceptibility and clonality. The presence of *lukSF-PV* genes was screened by PCR. Biofilm formation was evaluated by the crystal violet adhesion method. The virulence potential of strains representing relevant clonal lineages was assessed in the *Galleria mellonella* infection model.

Overall, carriage of PVL-encoding genes was frequent (43.7%, 147/336) amongst the SAB-related *S. aureus* with an increasing frequency (~70-100%) of PVL-positive strains during the last six years of the surveillance period, which could be linked to the emergence of the MLST clonal complex CC152 lineage in our setting. Nearly 80% (52/65) of the CC121 and CC152 strains produced biofilms, although this capacity was strongly enhanced in CC152 strains. These lineages showed higher virulence potential in the infection assays of *G. mellonella* compared to the *S. aureus* reference strain ATCC25923, but similar to the one displayed by strains from CC8, a clonal lineage with a decreasing frequency trend throughout the study period.

Our results highlight the importance of monitoring the emergent CC152-MSSA-PVL$^+$ and other lineages as they display important virulence traits that may impact negatively the management of SAB pediatric patients in our setting.

Acknowledgements:
Fundação para a Ciência e a Tecnologia (FCT, Portugal) through funds to GHTM (UID/04413/2020), LA-REAL (LA/P/0117/2020), grant UI/BD/154472/2022; Fundação Calouste Gulbenkian grant number 145278.