

First report on the antibiotic resistance profiles and virulence genes of *Staphylococcus pseudintermedius* colonizing shelter dogs and dog owners in Nigeria

MOSES Ikechukwu Benjamin

Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Nigeria.

The increase in antibiotic-resistant staphylococci among pets and its transfer to humans threaten veterinary medicine and public health. This study was designed to determine the antibiotic resistance patterns and the prevalence of virulence genes among *S. pseudintermedius* obtained from dogs and dog owners in Abakaliki, Nigeria. Exactly 112 swab samples (perineum, nares, and mouth) were obtained from shelter dogs while nasal swabs of 97 dog owners and 150 non-dog owners were collected. Swab samples were processed and isolates were identified using standard microbiological procedures. MIC was determined by broth micro-dilution using the sensititre system. Isolates were screened for *sec*, *siet*, *exi*, and *lukD* genes by PCR. A total of 99 *S. pseudintermedius* isolates [86 (76.8 %) from dogs and 13 (13.4 %) from dog owners] were obtained, out of which 52 (52.5 %) were identified as methicillin-resistant *S. pseudintermedius* (MRSP) strains as they harboured *mecA* genes. No *S. pseudintermedius* isolate was recovered from non-dog owners. Isolates were highly resistant to penicillin (100 %) and ampicillin (94.2 %). Equal resistance frequency (51.2 %) was each observed for fluoroquinolones, clindamycin, trimethoprim/sulfamethoxazole, and erythromycin. Isolates also exhibited resistance to gentamycin (46.5 %), chloramphenicol (23.1 %), tetracycline (19.8 %), and tigecycline (8.1 %). Isolates harboured *sec* (73.7 %), *exi* (2 %), *siet* (62.6 %), and *lukD* (55.6 %) virulence genes. *S. pseudintermedius* isolates, including MRSP strains which harboured *mecA* genes in this study were multi-drug resistant and notably more resistant than those reported in literature.

Biography

Moses Ikechukwu Benjamin completed his in in the Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Nigeria on the 25th of November, 2019. Presently, he is a Lecturer in the Department of Applied Microbiology, Faculty of Sciences, Ebonyi State University, Nigeria. He has published more than 35 research articles in reputable peer-reviewed journals.

ikechukwu.moses@ebsu.edu.ng