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Prevalence of biofilms and enterotoxins produced by *Staphylococcus aureus*-inducing pneumonia in South-South geopolitical zone Nigeria

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The emergence of recalcitrant strains of *Staphylococcus aureus* is also alarming and an awareness of the virulence has been shown to help prevent, combat or eradicate *Staphylococcus aureus* infections. This study aimed at evaluating the biofilm forming capacity of *Staphylococcus aureus*, prevalence of *Staphylococcus aureus* induced biofilms and enterotoxins as well as prevalence of *Staphylococcus aureus* induced pneumonia in south-south geopolitical zone, Nigeria. A total of 1500 clinical specimens (sputa) were collected from clinically diagnosed pneumonia patients in randomly selected health institutions in south-south geopolitical zone, Nigeria and cultured using selective medium for *Staphylococci*. Seventy nine (79) samples out of 1500 investigated yielded *Staphylococcus aureus*. The 79 clinical isolates were further screened for biofilm formation using crystal violet binding assay and for enterotoxins using reverse passive latex agglutination (RPLA) method. The results showed that prevalence of *Staphylococcus aureus* induced pneumonia in South-South geopolitical zone, Nigeria is low; but the biofilm forming capacity of *Staphylococcus aureus* is high with the highest and lowest mean biofilm thickness (absorbance) of 0.358±0.06 and 0.211±0.07, respectively. Also the results showed that the most prevalent *Staphylococcus aureus* enterotoxins in south-south geopolitical zone, Nigeria are enterotoxin B. These findings are very important in monitoring the virulence and resistance patterns of *Staphylococcus aureus.*

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Simultaneous identification of *Mycoplasma gallisepticum* and *Mycoplasma synoviae* by duplex PCR assay

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Mycoplasma gallisepticum (M.G) and *Mycoplasma synoviae* (M.S) have recognized as common respiratory pathogens especially in chickens causing lots of economic losses in poultry industries. The aim of this study was to develop and validate duplex polymerase chain reaction (PCR) for simultaneous detection of M.G & M.S. A total of 50 samples from tracheas, lungs and air sacs were taken from commercial broiler chicken farms in Iran. The samples were cultured in PPLO broth supplemented for M.S and M.G isolation and bacteria DNA were extracted by phenol/chloroform extraction method. The conserved region of *16S rRNA* gene was applied for the detection of *Mycoplasma genus* in 163bp fragment and M.G in 183 bp fragment and *vlh*A gene was also employed for detection of M.S in 350 bp fragment. Hence, duplex PCR amplified the conserved region of 16S *rRNA* and vlhA genes which were then applied for detection of M.G & M.S. 20 samples in *Mycoplasma genus*, and seven samples in M.G & M.S were positive in the single PCR whereas in three samples M.G & M.S were simultaneously positive in the duplex PCR method. The results showed that duplex PCR was successful to simultaneous identification of M.G & M.S and suggested that duplex PCR is more rapid and inexpensive method than the single PCR for detection of M.G & M.S.

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