

Multi-Drug Resistance in Bacteria Isolated from Respiratory Specimens of COVID-19 Pneumonia Patients Admitted to a Tertiary Care Hospital in Sri Lanka

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Antimicrobial resistance (AMR) is a worldwide public health concern. The COVID-19 pandemic has further worsened this situation and continuous AMR surveillance at different levels is important. Our aim is to conduct an AMR surveillance in COVID-19 pneumonia patients with suspected secondary bacterial pneumonia and requiring ICU care at University Hospital KDU. Laboratory records of 73 respiratory specimens from 50 patients were retrospectively analysed. Mean age was 57.06 and majority, 31 (62%) were males. There were 41 (56.16%) sputum specimens, 30 (41.09%) endotracheal aspirates and 02 (2.74%) bronchoalveolar lavage specimens. Out of the 73 specimens 22 were reported as oral flora and four specimens there were no growth. Remaining 47 satisfactory specimens grew 64 bacterial and fungal isolates. Acinetobacter species, (42.18%) were the commonest while Coliforms (21.87%), Candida species (17.18%), Pseudomonas species (15.62%) and MRSA (3.12%) were isolated. All Acinetobacter isolates, 30% of Pseudomonas and 92.8% of Coliforms were multidrug resistant (MDR) and resistant to at least 3 classes of antibiotics, while colistin sensitivity remained 100%. All Acinetobacter and coliform isolates were resistant to third generation cephalosporins with 40% resistance shown by Pseudomonas. Carbapenem resistance among Acinetobacter, Coliform and Pseudomonas isolates were 100%, 50% and 30% respectively while 28.6% of Coliforms were extended spectrum beta lactamase producers. MDR Gram negative bacteria is highly prevalent in this population. Strict infection control measures and antibiotic stewardship in the early stage of disease is essential to curtail the problem. Further studies to assess the impact of MDR organisms on the COVID-19 outcome is warranted.

Keywords: multidrug resistance, COVID-19 pneumonia, AMR surveillance