

AMR in COVID-19 times

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ABSTRACT

Summary: The COVID-19 pandemic, due to SARS-CoV-2, has affected all facets of society, including actions to address antimicrobial resistance (AMR). AMR was already among the top priorities for global public health, before the COVID pandemic began. The propagation of COVID-19 around the globe has been followed by an increased use of antibiotics. This is related to the alarm for bacterial superinfection in COVID-19 patients. With the risk of COVID-19 spread, there has been a rising awareness of the importance of antimicrobial stewardship programs (AMSP), as well as infection prevention and control (IPC) measures that could help decrease the microbial load and hence circulation of pathogens, with a drop-in dissemination of AMR. Here is an overview of factors during the pandemic that influenced AMR. Patients with COVID-19 often needed multiple courses of broad-spectrum antibiotics, mechanical ventilation, other organ support, and/or other invasive devices. This amplified exposure to, and risk of, infections with hospital-associated pathogens that are often highly resistant such as methicillin-resistant *Staphylococcus aureus* (MRSA), *Pseudomonas aeruginosa*, *Candida auris*, and *Acinetobacter baumannii*. On the brighter side, vitamins C, D3 and Zinc micronutrients have shown immunomodulating activity & as epithelial and endothelial barriers. ICU patients with continued illness/intubation have more common detection of multidrug-resistant (MDR) Gram-negative pathogens, likely reflecting hospital-acquired infection. Biomarkers such as CRP and PCT help in diagnosing bacterial infections, which may be raised in severe COVID-19 patients. In the particular setting of SARS-CoV-2 infection, fluid and pus-filled pulmonary alveoli generate a nutritive setting for bacteria such as *P. aeruginosa* and *S. aureus*. Chief recommendation to battle AMR problem includes, to optimize antibiotic use by confirming that the apt antibiotic is directed at the correct dose, for the correct duration, and in a manner that checks the best consequence and restricts side effects and AMR. Investigation of resistance must endure and be strengthened, in both COVID-19 and non-COVID-19 patients. Among the many consequences of the COVID-19 pandemic, there is the dominant potential impact on AMR. If not addressed, AMR will likely have hostile consequences, though over a period.