

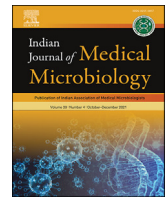


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Editorial

Antimicrobial resistance and the COVID -19 pandemic: A double threat



Antimicrobial resistance is a rising problem globally. Countries are struggling to keep this potential threat under control through legislation, guidelines and policies. At this juncture the Covid pandemic has given rise to several additional challenges to the existing burden of antimicrobial resistance. Exponential increase in number of Covid cases, with high rates of morbidity and mortality, have put tremendous strain on hospitals, besides adversely impacting the social fabric and economic stability of countries. As health care workers struggle to meet this challenge, rational use of antibiotics and antibiotic stewardship programs have had to be compromised in these facilities. Antibiotics continue to be prescribed for patients presenting with mild or moderate disease with or without Covid pneumonia, without any superimposed bacterial infection. Several published reports are testimony to this. While bacterial cause could be established only in around 5–15% cases, 60–70% of patients were prescribed antibiotics [1–3]. One might argue that it is not often possible to prove a bacterial etiology in patients hospitalized with COVID-19. Several factors play a role in taking a decision to initiate empiric antibiotics. Rapidly progressing symptoms, worsening inflammatory parameters, moribund condition of the patients, compounded with inability to take appropriate and timely cultures, given that PPEs worn by healthcare workers, severely compromising aseptic procedures, are some of the contributing factors to irrational antibiotic use. Perhaps the decision to start empiric antibiotics may have stemmed from early reports from China, suggesting that 50% of patients who died of Covid, had superimposed bacterial infections [2]. This is evidenced by azithromycin being frequently used empirically in mild to moderate Covid, without evidence of bacterial infection, outside the clinical trial mode. Reports of *Acinetobacter baumannii* and *Pseudomonas aeruginosa* as predominant isolates in several instances, suggests a hospital acquired etiology, probably multi drug resistant [3]. The other concern is carbapenem resistant Enterobacteriaceae (CREB) among Covid patients, focus is now on polymyxins, mainly colistin [4].

As super spreaders of SARS CoV-2 in the community, Covid afflicted individuals in the hospital with MDR isolates might well turn out to be super spreaders of MDR bacteria. There is also a growing concern for increasing use of biocidal agents for environmental and personal disinfection, including, in non-health-care settings. Low level exposure to

biocidal agents can enhance the risk of cross resistance to antibiotics, particularly those that act against Gram-negative bacteria [5].

To stem this tide, it is required to identify signs and symptoms of severe COVID-19, with symptoms of superimposed bacterial infections, to rationalise antibiotic therapy. Other measures would be to review therapy, de-escalate antibiotics, implement strict infection control measures and evaluate the need for medical devices which increase the scope for infections thereby increasing antibiotic use. It is also necessary to improve the diagnostic capability of Microbiology laboratories to decrease turnaround time of COVID-19 testing, as well as, specimen processing for identification of secondary bacterial infections, which in turn will reduce the need for empiric antibiotic use. Unless urgent Covid specific diagnostic and antibiotic stewardship programs are implemented, irrational use of antibiotics for COVID-19 patients in this pandemic, may impact burden of antimicrobial resistance, well into the future.

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