Microbiological profile and antibiotic resistance pattern of skin and soft-tissue infections: A study from Northern India

Sir,

Skin and soft-tissue infections (SSTIs) require wise choice of antimicrobials in addition to aggressive surgical intervention to limit tissue loss and preserve life.[1] The aim of this study was to determine the microbiological profile and antibiotic susceptibility patterns of organisms isolated from SSTIs in our hospital. We studied 4551 consecutive pus samples collected from both inpatients and outpatients of our hospital from January 1, 2017, to December 31, 2017. All isolates were identified by matrix-assisted laser desorption ionization time of flight mass spectrometry using the bioMérieux VITEK MS system (IVD database version 2.0) (Cambridge, Boston, USA) and susceptibility by disc diffusion method.[2] Of the 1997 bacterial isolates, 772 (38.65%) were gram-positive cocci and 1225 (61.34%) gram-negative bacilli. The most common pathogen isolated was shown in Table 1. Extended-spectrum beta-lactamase (ESBL) production was observed in 819 (66.85%) isolates, and it was highest in *Escherichia coli* (44.08%). Resistance to methicillin was detected in 24.18% of *Staphylococcus aureus* isolates and 13.94% CoNS. High proportion 71.64% of isolates exhibited HLARG. High rates of ESBL production (66.85%) and methicillin resistance were noted, which is comparable to previous studies from India.[3,4] More than half (71.64%) of the enterococcal isolates were HLARG, with the implication that the combination of beta-lactam plus aminoglycoside will not be active against them. Therefore, there is need of monitoring of resistance pattern of enterococci. The high rates of antibiotic resistance observed in the present study may be due to the fact that ours is a tertiary care hospital with wide use of broad-spectrum antibiotics leading to selective survival advantage of isolates and lack of definite antibiotic policy. This is reinforced by the fact that in a previous study from our institute, similar high rates of methicillin-resistant *S. aureus* (38.56%), ESBL production (66.75%), and HLARG (53.3%) were reported in SSTI's.[5] There is need for continued monitoring of susceptibility pattern in individual settings to prevent their further emergence by misuse of drugs.

Table 1: Organism of skin and soft-tissue infections

	Percentages
Organism	
Staphylococcus aureus	704 (35.25)
Pseudomonas aeruginosa	329 (16.47)
Klebsiella pneumoniae	302 (15.12)
Acinetobacter baumanni complex	149 (7.46)
CONS -	
Staphylococcus haemolyticus	45.5
Staphylococcus epidermidis	31.7
Staphylococcus hominis	11.6
Others	11.2
Enterococcus	
Enterococcus faecium	69.11
Enterococcus faecalis	30.88

Limitations of our study are retrospective study and collection of data from single-center only. To conclude, there is need for strategic, coordinated, and sustained infection prevention and control measures to combat these superbugs.

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Conflicts of interest

There are no conflicts of interest.

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