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Surveillance and Stewardship: Sense and Sensibility

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Abstract

The emergence of multi-drug resistant organisms necessitates new drugs and interventions to combat this serious threat. “A nil antibiotic era” is approaching as the pipeline for new antimicrobials has run dry. Management of sepsis requires accurate empiric cover without antimicrobial overuse — a goal that may be achieved by microbiological surveillance and antimicrobial stewardship.

Many ICUs employ a de-escalation strategy whereby ultra broad-spectrum therapy is used and the spectrum then narrowed once microbiological cultures become available. A study conducted in a Trauma ICU highlights that surveillance, knowledge of local flora and antimicrobial susceptibility patterns make it possible to use narrow-spectrum antimicrobials. Use of broad-spectrum antimicrobials was minimal thus curbing the emergence of multidrug-resistant pathogens.

Antimicrobial stewardship is a key component of the multifaceted approach to preventing antimicrobial resistance. Stewardship involves selecting an appropriate drug, optimizing the dose and duration to eradicate infection, while minimizing toxicity and conditions that select for resistant bacterial strains**.** A surveillance programme and empiric antimicrobial policy minimises ultra-broad spectrum prescriptions. Empiric antimicrobial therapy should cover the most likely pathogens endemic to a specific location. It is important to note that this does not refer to *all* pathogens, and prescriptions cannot be based on uncommon organisms unless the situation dictates the need.

There are challenges to successful stewardship, but its aims are education, prevention of antimicrobial overuse, and minimizing the development of resistance. Pivotal to success are clinicians, microbiologists, knowledge of local resistance patterns, and an antimicrobial policy that optimizes the choice, dose and duration of therapy.

Biography

Yogandree Ramsamy, MBCHB, currently completing her Master’s degree and Fellowship in Medical Microbiology at the University Of KwaZulu Natal South Africa. Has had three publications and is a reviewer for three international journals on subjects pertaining to Antimicrobial Resistance and Stewardship.