SYMPOSIUM 3 - AntiMicrobial Stewardship in real praxis

ANTIMICROBIAL STEWARDSHIP IN HEMATOONCOLOGY – WHERE WE ARE AND WHERE WE CAN BE

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Patients with hematological malignancies belong to the most vulnerable population regarding infection morbidity and mortality. Changes in epidemiology and increasing rate of infections caused by resistant pathogens have not affect significantly the basic principles of diagnostic and therapeutic approach but emphasize the rational antibiotic treatment. Antimicrobial stewardship is a set of procedures focused on optimal antimicrobial therapy. The main objective of stewardship is adequate, effective and non-toxic treatment reflecting the local epidemiology with the help of the modern and rapid diagnostic techniques. Stratification of the patients according to their risk, strategy of initial empirical antimicrobial treatment using escalation or de-escalation, use of monotherapy or combination treatment, optimisation of treatment duration and strategy for treatment of secondary infections (fungal and viral) are the main tools of this stewardship. Formal or informal application of antimicrobial stewardship in daily practice increases quality of care in patients with hematological malignancies. Multidisciplinary approach is absolutely inevitable – epidemiology, microbiology, clinical biochemistry, pharmacology, infectology should be a part of it. The main principles of antimicrobial management in hematology department will be presented and discussed in the light of evidence-based recommendations and pragmatic experience.

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DOES RAPID TESTING TRUMP CONVENTIONAL APPROACHES IN SUPPORTING AMS

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Diagnostic microbiology is essential for antimicrobial stewardship (AMS) by guiding selection of appropriate antimicrobial chemotherapy while minimizing unnecessary antibiotic pressure and resistance selection. However, conventional testing based on culture and phenotypic antibiogram require relatively long turnaround times (TATs) time, limiting the impact on AMS.
Recently, a plethora of novel tests have become available to laboratory practice for the rapid detection of microbial pathogens and antibiotic resistance mechanisms/profiles of clinical relevance in clinical specimens of in positive blood cultures. These rapid diagnostic tests (RDTs) are based on various analytical technologies (at the phenotypic or the molecular level) and return actionable results in a considerably shorter timeframe in comparison with conventional workflows, raising great expectations in terms of AMS support. However, RDTs also pose a number of challenges in terms of sensitivity, interpretation and cost, that must be carefully considered when introducing them the diagnostic workflow, while robust data concerning clinical and economical outcomes associated with their introduction are still limited and often conflicting. This presentation will present an overview of main RDTs which can impact on AMS and of the advantages and limitations exhibited by various tests. Strategies for their introduction in the diagnostic workflow will also be discussed, considering current evidences, in the perspective of evolving diagnostic stewardship in this area.

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WHEN THE LIMITS ARE WITHIN US - CASE REPORTS

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Prompt initiation of antibiotics to treat infections reduces morbidity and saves lives. However, about 80% of all antibiotics prescribed in primary care are either unnecessary or suboptimal. Like all medications, antibiotics have serious adverse effects, which occur in roughly 20% of hospitalized patients who receive them. We have suggested that it is now best to view antimicrobial stewardship more broadly, as a strategy, a coherent set of actions which promote using antimicrobials responsibly. Correct indication and interpretation of inflammatory markers is an integral part of antimicrobial stewardship. Not every elevated CRP and procalcitonin indicate an infection. Initiating antibiotic treatment only for reasons of elevated biomarkers is a gross mistake. We will demonstrate on two case reports the role of new and old biomarkers in AMS, the role of cumulative antibiograms and laboratory alert system as a critical tool of AMS in clinical practice.