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ANTIBIOTIC CHOICES FOR BLOODSTREAM INFECTIONS IN THE ICU: NAVIGATING THERAPY IN THE AI ERA

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Selecting optimal antibiotic therapy for bloodstream infections in critically ill patients remains a major clinical challenge, particularly in the era of increasing antimicrobial resistance and expanding therapeutic options. Appropriate empirical coverage, rapid microbiological diagnostics, and timely treatment optimization are essential components of effective management. Artificial intelligence and machine learning are opening new perspectives for predicting resistant pathogens, supporting antibiotic selection, and personalizing treatment strategies. However, their actual clinical value, generalizability, and ability to outperform conventional approaches remain to be fully established. The lecture will discuss current challenges and evolving strategies in antibiotic selection for bloodstream infections in the ICU, exploring how emerging AI-based tools may complement established clinical reasoning and antimicrobial stewardship principles to improve therapeutic decision-making.

Keywords: artificial intelligence; machine learning; sepsis; antibiotics