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Current Management of Multidrug-Resistant Gram-Negative Bacterial Infections

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Abstract

Antimicrobial resistance (AMR) has emerged as a formidable public health challenge globally, significantly threatening human health. The COVID-19 pandemic has further intensified the severity of AMR, particularly highlighting the daunting task of managing infections caused by multidrug-resistant gram-negative bacteria—a critical issue for frontline healthcare workers. Responding to these growing concerns, the World Health Organization (WHO) revised its bacterial priority pathogens list in 2024 to better strategize against AMR threats. In a parallel effort, the Infectious Diseases Society of America (IDSA) updated its treatment guidelines for tackling antimicrobial-resistant gram-negative infections the same year. This article delves into the treatment and care strategies for these pathogens, provides a concise overview of the role of β -lactamases in fostering resistance among Gram-negative bacteria, introduces the updated WHO Bacterial Priority Pathogens List and the IDSA's latest recommendations on treatment practices. Additionally, it offers insights into effective prevention and management tactics to combat these persistent threats.

Keywords: antimicrobial resistance, multidrug-resistant gram-negative bacteria, resistant mechanism


多重抗藥革蘭氏陰性菌感染的照護

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摘要

抗微生物抗藥性(Antimicrobial Resistance, AMR)在近年成為全球矚目的公共衛生議題，其影響對全人類健康構成重大威脅。在新冠肺炎(COVID-19)疫情期間，抗微生物抗藥性問題日趨嚴重。其中，面對多重抗藥性革蘭氏陰性菌的感染，更是第一線醫護人員首當其衝的挑戰。世界衛生組織(WHO)在2024年更新了病原菌優先清單，以應對抗藥性不斷演變的特性。美國感染症醫學會也在2024年更新治療多重抗藥革蘭氏陰性菌的指導文件。本文以多重抗藥性革蘭氏陰性菌的治療照護為要點，簡述乙內醯胺酶於革蘭氏陰性菌抗藥性中的腳色，並簡介世界衛生組織抗藥性病原菌優先清單以及美國感染症醫學會2024年針對革蘭氏陰性菌治療的更新，並探討防治之建議。

關鍵詞：抗微生物抗藥性、多重抗藥性革蘭氏陰性菌、抗藥性機轉