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Antibiotics Stewardship During the Ongoing COVID-19 Pandemic

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Abstract

The COVID-19 pandemic has affected the globe since the late 2019 and caused immense infections and deaths worldwide, thereby posing severe challenges to medical institutions. Regarding patient treatments, a common secondary infection following influenza is associated with symptoms induced by gram-positive bacteria such as *streptococcus pneumoniae*. A review of the relevant literature suggests that during the COVID-19 pandemic, numerous patients have received empiric antimicrobial therapy. However, the incident rates of secondary diseases or coinfection during the COVID-19 pandemic are not higher than those during influenza epidemics. Consequently, an immediate problem emerges regarding the increased use of empiric antibiotics during the current pandemic, which may lead to the increase of multiple drug resistant organisms. A structural problem underlying this situation is incurred by difficulty associated with the operation of the antimicrobial stewardship program (AMS) in hospitals. For example, AMS personnel have been reassigned to pandemic prevention units, preventing them from maintaining communications with multiple teams. In addition, the pandemic has impeded the basic monitoring of nosocomial infections or multidrug resistant organisms. Therefore, approaches to addressing the effect of the COVID-19 pandemic on antimicrobial stewardship and preparing for emerging pandemics in the future are critical topics that merit further exploration.

Keywords: COVID-19, antimicrobial stewardship, multidrug resistant organisms (MDROs)

在COVID-19 疫情時代的抗生素管理

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摘要

自2019年底，全球遭逢了COVID-19疫情，除了造成全球大量的感染及死亡，醫療機構也面臨重大的考驗。在病人處置中，傳統上於流感之後常見的次發感染為革蘭氏陽性菌，例如：肺炎鏈球菌感染。而在COVID-19疫情中，自文獻發現有相當多的患者接受了經驗性抗生素療法，但實際上續發或共同感染的比率並沒有比在流感疫情中來得高。所以在疫情中，立即可見的問題是經驗性抗生素的使用增加，可能的影響是多重抗藥性菌株隨之增加，而背後的結構性問題是院內抗生素管理系統(antimicrobial stewardship program, AMS)運作的困難，如：AMS的人力挪為防疫人員，無法維繫多團隊溝通，或是基本的院內感染與多重感染性菌株監測無法進行。因此如何面對現在COVID-19對抗生素管理的影響，為未來可能的新興疫情做準備，是一個重要的議題。

關鍵詞：嚴重特殊傳染性肺炎、抗生素管理、抗藥性菌株