difficult, A. baumannii, P. aeruginosa, and Enterobacteriaceae).

The gut microbiota regulates important physiological metabolic functions of the host and can be impaired during prolonged antibiotic treatments, becoming a significant reservoir of microorganisms with a nosocomial profile of antibiotic resistance. In C. difficile infections, there is a clearly recognized causal role of a dysbiotic microbiota, suggesting that similar alterations may be favoring colonization by Klebsiella pneumoniae carbapenemase (KPC)-producing K. pneumoniae (KPC-Kp) or an excessive intestinal growth by Candida species, thus favoring Candida bloodstream infections. Indeed, there are reports of candidemia following C. difficile severe infections [3], and KPC-Kp bloodstream infections associated with candidemia [4]. Interestingly, in murine models of gastrointestinal candidiasis, Cole et al. analyzed the impact of colonization of gastrointestinal mucosa, alterations of the normal integrity of the mucosal epithelium, and impairment of mucosal immunity in the development of invasive candidiasis [5].

If these considerations are correct, the gastrointestinal tube is a well-recognized key player as the main reservoir for human disease by Candida species and for epidemic dissemination of MDR bacteria such as KPC-Kp and C. difficile. Accordingly, we propose that antimicrobial stewardship programs should start focusing on a “CCC” strategy, aiming at carbapenemase-producing Enterobacteriaceae, C. difficile, and Candida species.

Among Enterobacteriaceae, carbapenemases are mainly seen in KPC-Kp, with increasing data coming not only from critically ill and surgical patients but also from internal medicine wards [6]. The identification of patients colonized by KPC-Kp in different settings deserves a dedicated intervention and a major compliance of healthcare workers to simple standard hygiene procedures, such as handwashing [7]. The European guidelines on infection control issues for gram-negative bacteria highlight the scientific evidence available on prevention and isolation, including C. difficile [8].

The “CCC” acronym may help antimicrobial stewardship programs to focus on current issues and may guide physicians in remembering and acknowledging the importance of disturbances of the gastrointestinal tract, including the collateral damage due to antibiotic treatment [9]. Timely identification of at-risk patients, early treatment in symptomatic patients, and antibiotic de-escalation are urgently needed. Save the tube!

**Note**

*Potential conflicts of interest.* All authors: No potential conflicts of interest.

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