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CORRESPONDENCE

Intestinal colonisation and blood stream infections due to vancomycin-resistant enterococci (VRE) and extended-spectrum beta-lactamase-producing enterobacteriaceae (ESBLE) in patients with haematological and oncological malignancies

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Dear Sir,

We read with great interest the report by Liss et al. [1]. These authors studied the rate of intestinal colonization and subsequent bloodstream infection (BSI) with vancomycin-resistant enterococci (VRE) and extended spectrum beta-lactamase producing Enterobacteriaceae (ESBLE) in patients with haematologic or oncologic (solid tumor) malignancies. Colonization rates were 9.9 % for VRE and 17.5 % for ESBLE. Subsequent BSI rates were 2 % for VRE and 6.6 % for ESBLE. None of the patients with BSI died after receiving early appropriate empiric antibiotic therapy based on colonization status. Risk factors for BSI were haematologic malignancy and quinolone usage. The authors concluded that (1) ESBLE and VRE intestinal colonization predicts subsequent BSI and (2) early empiric treatment based on colonization status may reduce mortality.

Our institution is a 631-bed Comprehensive Cancer Center that exclusively treats patients with cancer. We screen all patients admitted to our institution for haematopoietic stem cell transplantation (HSCT) or the treatment of acute leukemia, for VRE and *Pseudomonas aeruginosa* intestinal colonization, but not yet for ESBLE colonization. We have previously reported VRE colonization rates of 5.4 % in our patients with leukemia, and 4.9 % in HSCT recipients [2]. Subsequent BSI developed in 30 % of colonized patients, a frequency substantially higher than that reported by Liss et al. [1]. Urinary tract infections caused by VRE were also common in colonized patients. These differences are probably due to the fact that we do not screen solid tumor patients, as in our experience, the rate of VRE colonization and infection in these patients is extremely low and does not justify routine screening. Our current rate for intestinal colonization with *P. aeruginosa* is 7.3 %, with 34 % of colonized patients going on to develop subsequent infection (unpublished data). We have also previously demonstrated that prolonged carbapenem usage is a significant risk factor for the emergence of multidrug-resistant (MDR) *P. aeruginosa* and *Stenotrophomonas maltophilia* [3, 4]. Carbapenems are frequently used as empiric therapy for febrile neutropenic patients at our institution in accordance with Infectious Diseases Society of America (IDSA) guidelines [5]. Furthermore, patients with haematologic malignancies and HSCT recipients can develop multiple episodes of neutropenic fever that require antibiotic therapy, putting them at even greater risk. Although not specifically applicable to neutropenic patients, published guidelines for antimicrobial stewardship suggest the streamlining or de-escalation of broad spectrum empiric regimens as one strategy for reducing the development of resistant organisms [6]. Because of increasing MDR *P. aeruginosa* and *S. maltophilia* infection rates, our antimicrobial stewardship programme has targeted carbapenem usage with the goals of (1) reducing empiric usage and (2) de-escalating therapy to narrower spectrum agents after initial microbiologic data indicate the feasibility of this approach. We believe that this study by Liss and colleagues [1] provides important information regarding the utility of screening for colonization with VRE and ESBLE, as well as on the administration of antimicrobial therapy based on the colonization status of patients with haematologic malignancies who subsequently develop febrile neutropenia. We also believe that this information can guide antimicrobial stewardship

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initiatives, such as the streamlining or de-escalation of empiric therapy with carbapenems, and possibly reduce the frequency of infections caused by MDR organisms. Consequently, we are considering modifying our current screening protocol to include screening for ESBLE as well.

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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