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For control of colonisation with extended-spectrum β -lactamase-producing bacteria, SDD does work

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Dear Editor,
We read with interest the French report entitled “Clinical impact and risk factors for colonization with extended-spectrum β -lactamase-producing bacteria in the intensive care unit” [1] as we are aware that these researchers have previously reported on this topic. Brun-Buisson et al. [2] have an understanding of endemicity and outbreaks of carriage and infection due to extended-spectrum β -lactamase-producing *Enterobacteriaceae* (ESBL-PE). In 1989, they described an outbreak of carriage and infection due to ESBL-producing *Klebsiella pneumoniae*. Carriage and infection rates were 20 and 10 %, respectively. Reinforcement of hygiene practices failed to control the outbreak until they introduced a form of selective decontamination of the digestive tract (SDD) using enteral antimicrobials aimed at the eradication of carriage of the outbreak strain. The enteral antimicrobial cocktail applied included polymyxin E, neomycin and nalidixic acid. The carriage and infection rates dropped

to 3 and 0 %, respectively. In a later study by other authors enteral antimicrobials were shown to significantly reduce absolute carriage, a more appropriate term for colonisation pressure [3]. Colonisation pressure is qualitatively defined as the proportion of patients who carry the outbreak strain (percentage) in the ICU, whilst absolute carriage also takes into account the level of carriage of the outbreak strain in the ICU (qualitatively and quantitatively).

It is puzzling to us why 23 years later, Brun-Buisson et al. overlooked the one intervention that does work for the control of endemicity and outbreaks of ESBL-PE [4] when writing in their recent report that ‘our data suggest that additional measures may be warranted to control the spread of the latter species’ [1].

Abecasis et al. [4] recommend the more up-to-date enteral combination of polymyxin E and tobramycin. This positive experience comes from a paediatric ICU with a different setting, patient population and epidemiology compared with the Parisian ICU. However, we believe that SDD is worth trying as the combination of polymyxin E and tobramycin covers both community and ICU-associated ESBL-PEs such as *E. coli*, *E. cloacae* and *K. pneumoniae*, the three different strains described by another French group [5].

Finally, improving carbapenem use is a major challenge for Parisian intensivists. In contrast, the 25-year experience with SDD has demonstrated that the addition of enteral antimicrobials (polymyxin/tobramycin) to parenteral antimicrobials such as cefotaxime and carbapenems has prolonged the antibiotic era of these useful systemic agents, as the essential component of SDD (i.e., the enteral antibiotics) controls gut overgrowth of *E. coli*, *E. cloacae* and *K. pneumoniae*, the major risk factor for de novo development of resistance.

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