

LETTER

Selective digestive decontamination is superior to selective oropharyngeal decontamination

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See related research by Schultz and Haas, <http://ccforum.com/content/15/1/R18>

We are interested in the debate on the efficacy and safety of selective digestive decontamination (SDD) and selective oropharyngeal decontamination (SOD) raised by Schultz and Haas in their review [1].

The authors concluded that 'SDD and SOD are equally effective with respect to the prevention of mortality' [1]. This statement is based on the results of a Dutch randomized controlled trial [2], which was the first to demonstrate a survival benefit of SOD. However, the mortality reduction was higher, albeit not significantly, in the SDD group than in the SOD group. Additionally, a recent meta-analysis, including nine SOD randomized controlled trials and 4,733 patients, failed to show any significant mortality reduction (odds ratio (OR) = 0.93; 95% confidence interval (CI) = 0.81 to 1.07) [3]. In contrast, there is robust evidence indicating that SDD including parenteral and enteral antimicrobials significantly reduces mortality [4].

The authors wrote that 'whether SDD or SOD are favorable with regard to development of antibiotic resistance is yet unknown' [1]. The Dutch randomized controlled trial, however, showed that patients with aerobic Gram-negative bacilli in rectal swabs resistant to the marker antibiotics numbered less with SDD than with SOD [2]. Additionally, bacteremia due to highly resistant pathogens was significantly reduced by SDD compared with SOD (OR = 0.37, 95% CI = 0.16 to 0.85), and lower respiratory tract colonization due to highly resistant pathogens was lower with SDD (OR = 0.58, 95% CI = 0.43 to 0.78) than with SOD (OR = 0.65, 95% CI = 0.49 to 0.87) compared with standard care [5].

We believe that SDD is superior to SOD in terms of both mortality reduction and emergence of resistance.

Abbreviations

CI, confidence interval; OR, odds ratio; SDD, selective digestive decontamination; SOD, selective oropharyngeal decontamination.

Competing interests

The authors declare that they have no competing interests.

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References

- Schultz MJ, Haas LE: **Antibiotics or probiotics as preventive measures against ventilator-associated pneumonia: a literature review.** *Crit Care* 2011, **15**:R18.
- de Smet AM, Kluytmans JA, Cooper BS, Mascini EM, Benus RF, van der Werf TS, van der Hoeven JG, Pickkers P, Bogaers-Hofman D, van der Meer NJ, Bernards AT, Kuijper EJ, Joore JC, Leverstein-van Hall MA, Bindels AJ, Jansz AR, Wesselink RM, de Jongh BM, Dennessen PJ, van Asselt GJ, te Velde LF, Frenay IH, Kaasjager K, Bosh FH, van Iterson M, Thijsen SF, Kluge GH, Pauw W, de Vries JW, Kaan JA, et al: **Decontamination of the digestive tract and oropharynx in ICU patients.** *N Engl J Med* 2009, **360**:20-31.
- Silvestri L, van Saene HKF, Zandstra DF, Viviani M, Gregori D: **SDD, SOD or oropharyngeal chlorhexidine to prevent pneumonia and to reduce mortality in ventilated patients: which manoeuvre is evidence-based?** *Intensive Care Med* 2010, **31**:1436-1437.
- Silvestri L, van Saene HK, Weir I, Gullo A: **Survival benefit of the full selective digestive decontamination regimen.** *J Crit Care* 2009, **24**:474.e7-474.e14.
- de Smet AM, Kluytmans J, Blok H, Bonten M, Bootsma M: **Effects of selective digestive and selective oropharyngeal decontamination on bacteraemia and respiratory tract colonization with highly resistant micro-organisms [abstract].** *Clin Microbiol Infect* 2010, **16**(Suppl 2):S98.

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