Infection and Drug Resistance

Dovepress
open access to scientific and medical research

Open Access Full Text Article

RESPONSE TO LETTER

More Caution Needs in Study Design and Method Selection for "In vitro Antibacterial Effect of Deconex and Sodium Hypochlorite Against Bacterial Taxa Isolated from Dental Units" [Response to Letter]

This article was published in the following Dove Press journal:
Infection and Drug Resistance

Infection and Drug Resistance downloaded from https://www.dovepress.com/
For personal use only.

Mansour Amin[1,2]
Marieh Ardaneh[1]
Mohammad Hashemzadeh[1,2]
Aram Asarehzadegan Dezfuli[1]
Elham JafarZadeh[3]

[1]Department of Microbiology, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; [2]Infectious and Tropical Diseases Research Center, Health Research Institute, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; [3]Laboratory of Taleqhani Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Dear editor

We thank Emami and colleagues for their interest in guiding us to their recently published study reporting "In vitro antibacterial effect of deconex and sodium hypochlorite against bacterial taxa isolated from dental units".[1] We have attempted to answer their queries as much as possible. Deconex is the predominant agent used in our dental units for many years, hence, we evaluated health staff performance in dental faculty. Also in our introduction and results recommended the deconex was strong to eliminate microorganisms, thus this disinfection agent is confirmed. According to the results obtained in this study, there are some technical errors were happened by the dental technician in the decontamination procedure. Therefore, it is necessary to re-inspection and improve the methods of decontamination and the use of appropriate concentrations of this product. Actually, in this research, we criticize the function of the dental technician in the decontamination routinely procedure, not the efficacy of deconex. Can it be said that antibiotics are approved by CLSI? Is not it necessary to measure antibiotic resistance? Of course not. The evaluation of microbial contamination of dental units and quality control of health workers is the subject recommended by the American Dental Association. Emami and his colleagues have used the term "resistance against alcoholic-based disinfectants". If the word is incorrect then it should be used "tolerance to an alcohol solution".[2] Many studies have been investigating this phenomenon, and it may have been in our results. This phenomenon continues to be associated with increased antibiotic resistance. Our study has no claim that the bacteria are resistant to an alcohol solution. We confirm the Rideal-Walker phenol coefficient (R.W.C) test was the standard test, but according to reference this method has many limitations that can affect our study. Thus we decided to use the MIC method according to reference.[3,4] Also, this method is used in many authentic studies. According to CLSI reference-based, 50mL of each dilution was added in 96-well plated containing 50mL defined Luria–Bertani broth. Each well was inoculated with 50mL of the bacterial sample and mixed gently, yielding a final bacterial concentration of approximately 1*106 (CFU/mL). On the other hand, our

Correspondence: Mohammad Hashemzadeh
Department of Microbiology, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
Tel +98 9166034584
Email mh.hashemzade@gmail.com

submit your manuscript | www.dovepress.com
DovePress
http://doi.org/10.2147/IDR.S242240

© 2019 Amin et al. This work is published and licensed by Dove Medical Press Limited. The full terms of this license are available at https://www.dovepress.com/terms.php and incorporate the Creative Commons Attribution – Non Commercial (unported, v3.0) License (http://creativecommons.org/licenses/by-nc/3.0/). By accessing the work you hereby accept the Terms. Non-commercial uses of the work are permitted without any further permission from Dove Medical Press Limited, provided the work is properly attributed. For permission for commercial use of this work, please see paragraphs 4.2 and 5 of our Terms (https://www.dovepress.com/terms.php).

concentration of the bacterial sample was corrected. In our study, 120 samples were yielded that 20 samples were fungi and excluded from the study. However, 100 samples were considered in this study. In fact from each unit, one sample was taken. In total after calculated microbial counting, the higher contamination of units was found in oral medicine, root canal therapy, surgical units. The high volume of the contamination may be because areas selected for sampling may not be disinfected by the personnel.[5] Finally, to determine the morphology of the bacterial colony we used gram stain that was incorrectly hot dyeing. We apologize for this.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Emami A, Pirbonyeh N, Javanmardi F. More caution needs in study design and method selection for "in vitro antibacterial effect of deconex and sodium hypochlorite against bacterial taxa isolated from dental units". *Infect Drug Resist*. 2019;12:2655–2656.
2. Pittet D, Peters A, Tartari E. Enterococcus faecium tolerance to isopropanol: from good science to misinformation. *Lancet Infect Dis*. 2018;18(10):1065–1066. doi:10.1016/S1473-3099(18)30542-5
3. Phelps EB. The limitations of the phenol coefficient in the standardization of disinfectants. *Am J Public Health*. 1913;3(1):53–57. doi:10.2105/AJPH.3.1.53
4. Penna TC, Mazzola PG, Martins AM. The efficacy of chemical agents in cleaning and disinfection programs. *BMC Infect Dis*. 2001;1(1):16. doi:10.1186/1471-2334-1-16
5. Nascente PD, Meinerz AR, Faria RO, Schuch LF, Meireles MC, Mello JR. CLSI broth microdilution method for testing susceptibility of malasseziapachydermatis to thiabendazole. *Braz J Microbiol*. 2009;40(2):222–226. doi:10.1590/S1517-83822009000200002

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Infection and Drug Resistance 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Infection and Drug Resistance editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Infection and Drug Resistance

Dovepress

Publish your work in this journal

Infection and Drug Resistance is an international, peer-reviewed open-access journal that focuses on the optimal treatment of infection (bacterial, fungal and viral) and the development and institution of preventive strategies to minimize the development and spread of resistance. The journal is specifically concerned with the epidemiology of antibiotic resistance and the mechanisms of resistance development and diffusion in both hospitals and the community. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit http://www.dovepress.com/testimonials.php to read real quotes from published authors.

Submit your manuscript here: https://www.dovepress.com/infection-and-drug-resistance-journal