Reviewer’s report

Title: Compounds from Olea europaea and Pistacia lentiscus inhibit oral microbial growth

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Reviewer: Anders Gustafsson

Reviewer's report:

The aim of this study is to investigate the antibacterial effect of a number of constituents from Olea europaea and Pistacia lentiscus. This is an interesting and relevant aim.

My overall impression is that this is a methodologically well conducted study. My concerns regard the interpretation of the results.

Abstract

The abstract describes the manuscript well except for the conclusion. The conclusion in the abstract is not supported in the results. "…and could serve as efficient alternatives to antibiotics". There are two problems with this conclusion: A. the oral conditions usually treated with antibiotics are periapical lesions, severe periodontitis and sometime pericoronitis. There is nothing in this study showing that the tested substances would have any effect on these conditions. B. An antibacterial effect on planktonic bacteria is not the same as an effect on bacteria growing in a biofilm. As mentioned in the introduction, bacteria organized into a biofilm is much more resistant again antimicrobial substances.

The conclusion at the end of the discussion is better even that one also needs to be changed.

A detail - on line 73 and 74 it says that maslinic acid was the most effective compound against anaerobic pathogens, it had no effect on Prevotella intermedia, this should be mentioned.

Introduction

The introduction is well written but I still think that it lacks some information about the reasons why these xx bacteria were selected. This is important for the understanding of the relevance of the study. This is my main concern with the introduction. I do have some minor points to:
Line 90 "of the most current therapeutic trends in medicine" I find this a strange expression, especially when it is supported by 13 years old reference.

Line 115 "Recent years have seen the increase in chemotherapeutic intransigence of microbial biofilms," Has the resistance of biofilms really increased during recent years?

In this section of the discussion there is a confusion between the increased resistance of biofilms per se and the existence of resistant bacteria in the biofilm. This should be sorted out.

Material and Methods

This section is very ambitious and meticulous and I hav only one concern; the samples were tested in duplicate. How were the results handled? Is it an average that is reported in the tables, if so there should be a variation. How big difference between the results was acceptable? They could hardly be identical. To chose the highest number is unusual, what is the rationale behind that?

Discussion

This is the section that has the biggest potential for improvement. The discussion is quite long but it still doesn't address some of the important questions.

In the very first line of the discussion the decreased susceptibility to antibiotics within oral biofilms is mentioned, which is correct but the problem is that this study has not investigated the effect on bacteria in a biofilm. The implications and importance of this discrepancy must be discussed.

It is good that some of the studies compounds have a stronger effect om Gram negative bacteria as compared to Gram positive since Gram negative bacteria are associated with periodontal disease and Gram positive with periodontal health. This should be discussed in this section of the Discussion.

The discussion is more of a literature review, in my mind it could be shortened and focussed on the findings in this study.

Also the conclusion could be condensed and more precise. None of the tested compounds can be considered extremely effective against P.intermedia.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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