Reviewer’s report

Title: Microbiological properties of Tualang honey dressing for treatment of partial thickness burn wound: A comparison with Manuka honey and silver based-dressing.

Version: 1 Date: 10 February 2010

Reviewer: Juraj Majtan

Reviewer’s report:

The authors of this manuscript have investigated the antimicrobial properties of tualang honey dressing for treatment of partial thickness burn wound. They do believe that tualang honey has antimicrobial properties comparable to medicinal grade honey (manuka honey).

I have got a few major and minor comments which should be considered:

MAJOR COMPULSORY REVISIONS

My main concern is about the interpretation and description of obtained results:

1. The title of manuscript entitled “Microbiological properties of tualang honey dressing for treatment of partial thickness burn wound: A comparison with manuka honey and silver-based dressing” is a little bit inaccurate. The authors focused on antimicrobial effect of all above mentioned dressing in vitro. I would suggest change the title as follows “Antibacterial properties of tualang honey …..”

2. The summary (abstract) of the manuscript should be rewritten. The results section in abstract seems to be incomplete and describes only one result from isolation of wound bacteria. Following parts from conclusions section of abstract should be replaced to results section:

“Aquacel-manuka honey and silver-based dressing (Aquacel-Ag) were more effective than Aquacel-tualang honey dressing. Aquacel-Ag dressing was the most effective antimicrobial agent against Gram-negative bacteria, and Aquacel-manuka honey dressing was the most effective microbial agent against Gram-positive bacteria.”

3. According to results from this study I feel that statement in conclusion section of abstract “Tualang honey has the potential to be used as a burn wound dressing” is overstated and misleading. This statement is not supported by the authors’ results. Following statement would be more suitable and corresponds with obtained results: “However, tualang honey is less sticky and easier to apply than manuka honey, it is not as effective as usual care products such as silver-based dressing or medical grade honey dressing.

4. On page 4 (line 19) the sentence “This study evaluated…..” is misleading. The
authors did compare the efficacy of tualang honey dressing only with silver-based dressing (not others dressings!!!!!) for treatment of burn wounds. Please correct it or reformulate it.

5. On page 5 (the first paragraph) is written that authors isolated bacteria from wounds treated with all dressings, but this is not true information. In methods section is clearly written that only Aquacel-tualang honey and Aquacel-Ag were used for treatment. Subsequent sentence should be also reformulated, when the previous sentence will be changed.

6. (Page 6, line 17 and page 8, line 22). I am wondering how the authors calculated and interpreted the minimal inhibition concentration (MIC). The authors used the dressings soaked with either 100% tualang or 100% manuka honey. Disc diffusion method using 100% honey dressings assessed only efficacy of certain dressing, but did not tell as anything about MIC at all. To determine MIC, authors are encouraged to set up new experiment where plain dressings would be soaked with several honey dilutions (50%, 40%, 30%,...) and antimicrobial effect would be determined by disc diffusion method. Afterwards, approximate MIC can be estimated.

7. Conclusion part of manuscript must be carefully rewritten. The authors should avoid of overstated statements.

8. Title of table 3 should be completed. For examples: Antibacterial effect of selected dressings on isolated bacteria from burn wounds. Data are expressed as the mean in mm of bactericidal zones from three measurements.

MINOR ESSENTIAL REVISIONS

1. Page 3, line 3. The use of honey as a natural product of honeybee (Apis spp.) for.....

2. Page 3, line 5. ...fructose and glucose as major components and other honeybee derived chemical compounds or phytochemicals present in small quantities

3. Page 3, line 10. Later, to compare the antimicrobial potential of each dressing in vitro, organisms isolated.....

4. Page 3, line 21. Manuka honey should be written with non-capital first letter “manuka honey”

5. Page 4, line 3. It is well documented that honey derived from various floral sources inhibits a broad spectrum of bacterial species. (add more references, e.g. Basson and Groble, 2008; Majtan and Majtan, 2009; Maeda et al, 2008; Boukraa and Niar, 2007)

6. Page 4, line 9. ...low pH, and other partially characterized or uncharacterized compounds,....

7. Page 5, line 12. and page 6, line 7. Provide proper address of companies, as
follows: Name (Town, County (if any), Country)

8. Page 6, line 12. Then, 1 ml of each dilution was spread onto tryptic soy broth (TSB) plates in triplicate. Subsequent sentence should be removed from manuscript “Approximately 20 ml…”

9. Page 8, line 19. “Table 3 shows that all dressings had antibacterial effects…” What about plain dressing? It has no antibacterial effect. Please be precise in formulation and interpretation of results.

10. Page 9, line 4. “This study used Aquacel-tualang honey dressing and Aquacel-Ag dressing to treat partial thickness burn patients and to determine their antimicrobial effects in vitro.”

11. Page 10, line 11. Remove one parenthesis “[3]).

12. Page 10, line 20. “Aquacel-manuka honey dressing gave slightly higher MIC values…” This must be corrected (see major revision comments No. 6)

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests