

LETTER TO EDITOR

## Healing Effect of *Perovskia Abrotanoides* Karel and Expression of VEGF and TGF-B Genes in Burn Injury of Rats

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### DEAR EDITOR

I read with great interest a Letter To Editor by Rabiee and Manafi (1) on my previous publication entitled “Healing effect of *Perovskia abrotanoides* Karel and expression of VEGF and TGF-B genes in burn injury of rats” (2). I am very glad to hear from my colleagues. Undoubtedly, critical thinking improves the usefulness of such medical researches. I reviewed all the points mentioned by Rabiee and Manafi (1), and the following are our point-by-point responses to their comments.

First of all and regarding the follow-up period, it should be noted that several commercial ointments are currently available for accelerating burn wound healing. Therefore, the novel ointments should be able to speed up the healing responses as short as possible and be more effective than currently available approaches. In our preliminary studies, the effects of *P. abrotanoides* Karel ointment in

burn wounds were assessed at day 7<sup>th</sup> of post-injury through the histopathological (3) and molecular (2) assessments in healing.

Evaluation of the healing process within the first 7 days is highly valuable; however, an experimental burn wound in the rat often does not require any treatment after this time and usually will spontaneously cure. It may be due to the small size of experimental burn wounds as well as the lifespan and genetic characteristics of the rat model. Hence, evaluation of the healing potency of new ointments after the first-week post-injury in the rat is not necessary and does not show its efficiency in natural cases.

Second, our histopathological findings of the healing effects of *P. abrotanoides* Karel were also published previously. We recommend our colleagues to find the paper titled “A study on the effects of *P. abrotanoides* Karel on experimental skin burn in

male rat: *in vivo* and *in vitro* findings” (3), which explained the depth of our burning method (full-thickness burn) by the histopathological assessments.

Third, please find another paper titled “Comparative study on the effects of heated brass bar and scald methods in experimental skin burn in rat”, which was highlighted the benefits of inducing an experimental burn by scald method (boiling water) in comparison with a heated brass bar (4). The actual amount of heat delivered to a tissue by different burn methods is not equivalent, causing an injury to the different layers of skin; hence, the injury mechanism has an effect on the burn severity. Induction of the experimental burn injuries using the hot metals is neither moral nor rational due to very deep and uncontrolled skin damages (4).

Lack of standardization and uniformity of burn wounds creates superficial or partial-thickness burn, while mistakenly considered as a full-thickness form. Therefore, we introduced a simple, available, uniform, and moral method with identical results. Furthermore, scald is the most common cause of burn injuries in the world (4); however, we did not extend our findings to all types of burn injuries and has been suggested the necessity of further comprehensive studies to generalize the findings (2, 3).

Fourth, the vehicle of *P. abrotanoides* Karel ointment was reported in the method section of both published papers (2, 3), and was consisted of several natural ingredients such as the black seed, ginger, virgin olive oil, honey wax, and the bee glue. Although the effects of each component were not evaluated in our studies, many reports in the literature focused on the potency of each ingredient for accelerating wound healing. Besides, they are in interaction with one another and should be considered as a whole.

Fifth, the genus and species of *P. abrotanoides* Karel were identified and deposited at the herbarium

in the Department of Traditional Pharmacy, School of Pharmacy, Shiraz University of Medical Science, Shiraz, Iran (Voucher no. PM 937). All information were also reported in the method section of our published papers (2, 3). Sixth and the last, an evaluation of the expression of several genes requires more finance and budget. If funds are available, more evaluations can be performed in future studies.

#### Acknowledgement

This is a response to a previous works and no fund was received for the answers.

#### Conflict of Interest

None declared.

#### References

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