



## Case report

# Pruritic papules and nodules as sign of persistent scabies infestation despite treatment according to current guidelines evidence for treatment resistance to ivermectin, benzylbenzoat and permethrin proven by videomicroscopy

P. Lehmann<sup>a,\*</sup>, A. Kremer<sup>b</sup>, T. Assmann<sup>b</sup>, R. Mang<sup>b</sup>

<sup>a</sup> Helios Universitätsklinikum Wuppertal, Germany

<sup>b</sup> Hautzentrum Cronenberg, Germany

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## ABSTRACT

Scabies infestation is a growing public health issue due to its world wide increase of incidence. The objective of this study was to proof treatment resistance towards treatment, which was applied according to international guidelines. This is a controversial issue since treatment failures were believed to be due to false application of the treatment. Here, we proof for the first time this treatment resistance by videomicroscopic evaluation. Additionally an escalation therapy is described, which led to an effective treatment.

## Clinical case

A 55-year-old patient presented to us with persisting extremely itching papules and nodules. He had been treated four times according to guidelines [5] for a proven scabies infestation.

The videodermoscopy evaluation showed an ongoing scabies infestation according to the following criteria: Active gastrointestinal movements and defecation could be seen as sign for vital mites. By sequential dermoscopy movement of the mites could be demonstrated, thus indicating ineffective therapy [3].

The treatment was explained to the desperate patient again and Ivermectin and permethrin were prescribed. The treatment was repeated twice as recommended in the current guidelines [5].

In the following presentation again living sarcoptes mite could be detected with the above mentioned criteria and gastrointestinal movements and defecation could be seen as sign for vital mites an moving of GI tract, thus, indicating treatment resistance to the recommended medication [3].

Thereupon an escalation therapy was initiated with ivermectin twice (Day 0 and 10, Permethrin twice (Day 0 and 10) and Crotamitex day 2–4.

Thereupon, after the second treatment cycle an amelioration of the itching was remarked and the skin lesions resolved subsequently. By Videomicroscopy no movement of the GI tracts of the mites could be demonstrated, also no movement of the mites. Dead mites were

characterized by translucence of the ventral parts of the mites (black arrows). The epimeres of the anterior leg pairs are clearly demonstrated (red arrows) „Y sign“ and, most important, the picture of a dried out hydrangea (Fig. 1).

## Commentary

Scabies infestation is a growing problem with increasing incidence in many countries [1,2,4,6,7]. Here we report for the first time proof of treatment resistance to permethrin, Ivermectin and Benzylbenzoat. Therefore, persisting scabies infestation should be treated with a broadened therapeutical regimen, as described above.

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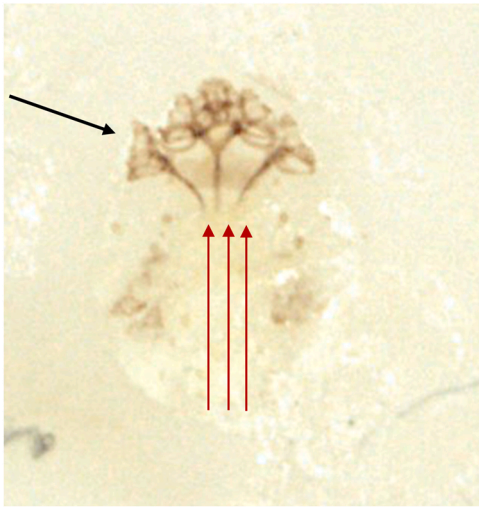
An ethical approval was not needed to perform this work.

## Author statement

The revised manuscript is now ready to be published. The reviewer's comment were helpful.

\* Corresponding author.

E-mail address: [Percy.Lehmann@helios-gesundheit.de](mailto:Percy.Lehmann@helios-gesundheit.de) (P. Lehmann).



**Fig. 1.** Morphologic criteria of an Avital mite 96 h after effective therapy. Increased translucence of the ventral parts of the mite (black arrows). The epimeres of the anterior leg pairs are well visible (red arrows) and sign of a dried out hydrangea.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

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