Reviewer's report

Title: Rapid detection of dermatophytes and Candida albicans in onychomycosis specimens by an oligonucleotide array

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Reviewer: ramzi zemni

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The authors have tried to validate the diagnosis of onychomycosis from nail specimens by an oligonucleotide array. They stipulate that the array probes are specific to 17 species of dermatophytes, to C. albicans and to fungus (as it was explained in a previous study).

In this study, 32 nail specimens were parallel analyzed by two methods (array and culture) and their results were compared. Concordant results were found in 21 samples (10 positives and 11 negatives) by both methods, while 11 samples were only positive by the array. To check the discrepant results of the two methods, the authors sequenced the amplified ITS fragment and they asserted that in seven cases the sequencing analysis was conclusive and confirmed the array result, but in four cases the sequencing was negative. The authors did not explain what means the negativity of the result: is that they were not able to sequence the amplified fragment? Or is the sequence that does not correspond to dermatophyte or yeast?

Regarding the four cases, whose sequencing was negative, two were considered true positives and two false positives, based on the results of direct examination, the contraction of tinea pedis in the patient, and improvement of onychomycosis after antifungal treatment.

The approach taken by the authors seems to be very logical and acceptable apart from the small sample size. The array could greatly improve the diagnosis of onychomycosis due to its high sensitivity and good specificity as well as its rapidity.

In this manuscript, the question posed by the authors is well defined, the diagnostic approach is appropriate and methods are clear.

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

Quality of written English: Acceptable

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' below