

Dear Editor,

Thank you very much for your valuable comment.

(1) Reviewer #1:

Comments: Short discussion; the authors should describe the mechanism of the relationship between these diseases. Number of references is small.

Authors' response: Thank you very much for your valuable comment. We have added a discussion section for mechanisms related to infection and epidermolytic hyperkeratosis (EHK). Furthermore, we have added references.

Patients with skin diseases often exhibit a disturbed skin barrier and tend to have poor cell-mediated immunity, such as atopic dermatitis, irritant contact dermatitis, ichthyosis, rosacea, and acne [7, 8]. Patients with EHK, especially with subtypes of ichthyosis, are prone to repeated episodes of skin infections, including bacterial infection and fungal infection, but the mechanism is still elusive [4, 9]. Several factors have been proposed, including disruption of skin barrier function, hyperkeratotic plaques and defective cell-mediated immunity [10,11,12]. Staphylococcus aureus is a leading cause of human bacterial infection, and the most common site of Staphylococcus aureus infection is the skin [13]. Skin and soft tissue infections with Staphylococcus remain a dominant cause of bacteraemia and IE [14,15].

(2) Reviewer #2:

Comments: it is better to provide a separate conclusion section.

Authors' response: Thank you very much for your valuable comment. We have added a conclusion section. Accordingly, we revised the language of the manuscript and corrected all typing errors.

CONCLUSION

A case of atopic dermatitis, IE and multiple cerebral infarctions has been reported [23], but there are no previous reports of EHK and IE, such as in our case. Several factors have been speculated to increase the risk of infection, including disruption of skin barrier function, defective cell-mediated immunity, and delayed keratin scaling. In our

case, a breached skin barrier secondary to EHK, coupled with inadequate skin sanitation, likely provided the opportunity for bacterial seeding by MSSA, triggering IE and abscesses. EHK may be associated with skin infection and multiple risk factors for extracutaneous infections. Patients with EHK should be treated early to minimize the consequences. If patients with EHK present with prolonged pyrexia, IE and organ abscesses should be suspected or checked, including metastatic spread. In conclusion, we highlight that in the absence of radical treatment, clinicians need to recognize that patients with EHK are vulnerable to bacterial infections owing to disruption of the skin barrier.