



TOMCAT STINGS INDUCE PAEDERUS DERMATITIS: CASE STUDY IN EAST JAVA - INDONESIA

AMALIA TRI UTAMI¹, ANDITRI WENINGTYAS² MOHAMMAD SYARIF³

¹Maryam and Isa Clinic, Indonesia

²State University of Malang, Indonesia

³Sumber Sentosa Hospital, Tumpang, Indonesia

Email: amalia.utami.fk@um.ac.id

DOI: 10.5859/nairjpms.2023.10.12.01

ABSTRACT

Background: *Paederus dermatitis* is a prevalent issue in Indonesia. *Paederus dermatitis* is a seasonal disease with an increasing number of cases observed from October onwards. The peak incidence typically occurs from January to March of the following year. Patients were mainly located in suburban areas, with most being outdoor workers. **Case Report:** A 27-year-old guy complained of reddish patches, itching, and back pain that started one day earlier when he visited the Maryam and Isa clinic. The patient initially noticed reddish patches on their breast skin, accompanied by itching. Little fluid-filled spots and a burning and stinging sensation also appeared as they continued to scratch. After returning home from hanging out at a cafe on the edge of the rice fields, the patient notices this unexpected complaint. Erythematous macules with distinct borders, papules, and vesicles with a characteristic look in a row resembling a straight line (linear) in the anterior thoracic region were all present in the dermatological condition on the back. Cleaning the lesion with 0.9% NaCl and then betadine is the first course of treatment. Following that, the patient receives 1% hydrocortisone cream at a low dose along with antihistamine medication. The patient's lesions gradually recovered on day two after treatment.

KEYWORDS: Tomcat; Dermatitis Venenata; Paederus Dermatitis

INTRODUCTION

The term "tomcat" in Indonesia refers to an ectoparasite rove beetle known as *Paederus riparius*. Although this insect has a dangerous poison, which is more concentrated than cobra venom, it is not lethal to humans. Tomcats are beneficial for farmers and play a role in the ecosystem. Maintaining natural balance and harmony with nature is crucial to prevent outbreaks of tomcats and other pests like caterpillars and grasshoppers. (1)

Some search results mention that *Paederus* Dermatitis, a type of dermatitis venenata, is caused by the *Paederin* poison found in tomcats (*Paederus riparius*). (2) This type of dermatitis causes inflammation of the skin with distinctive characteristics such as erythema and pruritus accompanied by cysts in the cervical region. The study suggests that dermatitis is still high in Indonesia, and the Daarul Quran Putra Islamic Boarding School has an increased incidence of *Paederus* Dermatitis. To control and overcome the incidence of *Paederus* Dermatitis, cadres called Tomcat Fighters as Detective Tomcat are formed to educate and treat the suffering students. The study concludes that the education given to male cadres proves the success of the Fight Tomcat strategy to recover the sustained students. Therefore, there is a connection between tomcats and dermatitis venenata, specifically *Paederus* Dermatitis, caused by the *Paederin* poison found in tomcats. This type of inflammation generally occurs in high-temperature areas with tropical climates. Indonesians generally do not understand the incidence of dermatitis, so the incidence of dermatitis is still high and has not been treated appropriately. (3,4)

CASE REPORT

A 27-year-old man came to the Maryam and Isa clinic complaining of reddish spots accompanied by itching and pain in his back, which had been felt since one day ago. Initially, the patient felt changes in the skin on the chest in the form of reddish spots accompanied by itching until the patient continued to scratch. Small spots containing fluid appeared, and a feeling of stinging (burning) and heat. This complaint appears suddenly and is realized by the patient after returning home from hanging out at a cafe on the edge of the rice fields. In the dermatological status on the back, erythematous macules were found with clear boundaries; in several places, there were papules and vesicles with a typical appearance in a row like a straight line (linear) in the anterior thoracic region. The first treatment is to clean the lesion with 0.9% NaCl and then clean it with betadine. After that, the patient is given antihistamine medication and low-dose hydrocortisone cream, 1%. The patient's lesions gradually recovered on day two after treatment.

DISCUSSION

Venenata dermatitis or paederus dermatitis is an irritant dermatitis caused by pederin produced by the rove beetle (Paederus). This disease occurs worldwide but is often unrecognized because there is often no history of contact with the insect. This usually happens during the rainy season. Venenata dermatitis is one part of the slow acute type of irritant contact dermatitis, which is generally caused by bites, saliva, or feathers of insects that fly at night, where the clinical picture and symptoms only appear 8 to 24 hours or more after contact. Paederus insects usually measure around 7-13 mm and are commonly mistaken for ants. The insect's color is bright with metallic blue or green elytra, and many have orange on the pronotum and basal segments of the abdomen. (5-8)

Effective treatments for Paederus dermatitis include: (9-12)

1. **Topical Hydrocortisone Ointment:** Prescribed for all patients regardless of the specific treatment applied
2. **Sambucus ebulus Extract Solution:** A 5% Sambucus ebulus fruit extract solution has shown promise in controlling symptoms such as burning, pain, inflammation, drying wounds, preventing infection, and accelerating healing
3. **Homoeopathic Doctrine of Signature:** While limited evidence exists, a single case report suggests homeopathic remedies might help treat Paederus dermatitis
4. **Oral Steroids:** Used when necessary to manage severe cases

It should be noted that the 5% Sambucus ebulus fruit extract solution demonstrated superior efficacy compared to other treatments in terms of symptom management and healing times. Education and awareness campaigns, such as the Tomcat Fighters program in Indonesia, play a vital role in reducing the spread and impact of Paederus dermatitis. It is necessary to remember the hadith of Rasulullah, which says:

"Indeed, Allah has sent down diseases along with their medicine, and He has made every disease have a cure, so seek treatment, but do not seek treatment with what is haram." (HR. Abu Dawud). So, Muslims need to pay attention to the use of medicines that are labeled halal.

A few natural alternatives could potentially offer relief (9-12):

1. **Aloe Vera Gel:** Known for its anti-inflammatory properties, aloe vera gel might help soothe the skin and promote faster healing.
2. **Apple Cider Vinegar:** Its acidity could help neutralize the stinging sensation and reduce inflammation.

3. Turmeric Paste: Curcumin in turmeric has potent anti-inflammatory effects.

However, it must be emphasized that these suggestions must still be supported by robust clinical studies specifically targeting Paederus dermatitis. As long as the patient's hygiene is maintained, recovery reaches 100% on day 13 (9).

While specific dietary changes for Paederus dermatitis are not extensively discussed in the search results, maintaining a healthy diet rich in essential nutrients can support overall skin health and potentially aid healing. Here are some general dietary recommendations that may help (9-11):

1. Anti-Inflammatory Foods: Incorporating foods with anti-inflammatory properties, such as fruits, vegetables, whole grains, honey, nuts, black seeds, and other seeds, may help reduce inflammation associated with skin conditions like dermatitis

2. Hydration: Drinking adequate water is essential for skin hydration and overall health. Staying hydrated can support skin healing and maintain skin barrier function

3. Omega-3 Fatty Acids: Foods rich in omega-3 fatty acids, like fish liver oil (salmon, mackerel), flaxseeds, and walnuts, may have anti-inflammatory effects that could benefit skin health

4. Vitamins and Minerals: Ensuring an adequate intake of vitamins C, E, and A, as well as zinc and selenium, which are essential for skin health and wound healing, may be beneficial

CONCLUSION

Treatment for tomcat bites can use steroid drugs and hydrocortisone ointment. Coupled with nutritional intake that is rich in anti-inflammatory properties, it can speed up healing in this case, such as honey and black seed. Beloved Rasulullah SAW also taught reading to get protection from animal threats,

أَعُوذُ بِكَلِمَاتِ اللَّهِ التَّامَّاتِ مِنْ شَرِّ مَا خَلَقَ

Meaning: I seek refuge in the perfect words of Allah from the evil of the creatures He created.

Imam Ahmad and Imam An-Nasa'i narrated that the Messenger of Allah said, whoever recites this prayer in the afternoon three times, it will not be dangerous for him to be stung (by poisonous animals) that night. Apart from that, some scholars say that if you encounter wild animals, we should read Surah Ash Shaffaat Verse 79:

سَلِّمْ عَلَيَّ نُوحٍ فِي الْعَلَمِينَ

Meaning: "Prosperity was bestowed upon Noah throughout the world."

Some scholars said that the animals had made an agreement with the Prophet Nuh 'Alaihis Salam not to harm or disturb anyone when they boarded the Ark of the Prophet Nuh 'Alaihis Salam.

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