

Chiggers

Chiggers, also known as red bugs, harvest mites, scrub mites, or *bête rouge*, are not true insects but are instead arachnid relatives, belonging to the family *Trombiculidae*. While chiggers are present worldwide, only a few species, particularly *Eutrombicula alfreddugèsi* (also known as *Trombicula irritans*), are known to significantly affect humans in North America. Despite their small size, chiggers are capable of causing intense itching and discomfort through their feeding behavior, which leads to the clinical condition known as chigger dermatitis.

Classification and Biology

Chiggers are the larval stage of mites within the *Trombiculidae* family, which is closely related to ticks and spiders. The larvae are notably small, with an average diameter ranging from 1/150 to 1/120 inches, making them nearly invisible to the naked eye. The larvae are typically yellow, orange, or light red in color and possess six legs, in contrast to the eight-legged adult mites. It is the larvae, rather than the adult forms, that are parasitic and responsible for causing bites in humans. Adult chiggers do not feed and are not parasitic.

In North America, the most problematic species is *Eutrombicula alfreddugèsi*, which is commonly found in low-lying vegetation in areas with tall grass, wooded regions, and around water sources. These mites attach to clothing and migrate across the skin in search of a feeding site. Contrary to popular belief, chiggers do not burrow into the skin but rather secrete enzymes that cause localized damage to skin cells.

Etiology and Feeding Behavior

Chigger bites typically occur when the larvae attach to areas of the body where clothing fits tightly or where skin folds occur. Common bite sites include the lower legs, ankles, behind the knees, waistline, groin, and axillae. Bites may not be immediately noticeable, with the symptoms often appearing 1-3 hours after the mite secretes a digestive enzyme into the skin. This enzyme breaks down skin cells, creating a feeding tube called a stylostome, which the larva uses to ingest the liquefied tissue.

The release of digestive enzymes and the subsequent formation of the stylostome trigger intense itching, which is most severe within the first 24-48 hours post-bite. The itching gradually subsides, and the affected areas may present with red, flat, or raised lesions. In some cases, a vesicle or pustule may form. Chigger dermatitis can persist for up to two weeks before complete resolution, depending on the severity of the reaction and the individual's immune response.

Clinical Presentation

Chigger dermatitis, the condition resulting from mite bites, is characterized by intense itching, erythema, and the appearance of lesions at the site of the bite. The lesions may range from flat, red areas to raised papules, and can sometimes develop into vesicles or pustules. The severe itching associated with the bites is the most prominent symptom and can cause significant discomfort. Although chigger dermatitis is not usually serious, it can cause distress due to its prolonged nature, with symptoms potentially lingering for up to two weeks.

Prevention

Prevention of chigger bites primarily involves reducing exposure to the larvae, particularly when spending time in outdoor environments where chiggers are prevalent. Protective clothing is essential, including long-sleeved shirts, long pants, thick socks, and boots, which should be worn whenever possible in areas with dense vegetation. Pants should be tucked into boots to prevent the mites from reaching the skin.

In addition to wearing protective clothing, the use of insect repellents containing DEET can help prevent chigger infestations on both skin and clothing. Chiggers are sensitive to temperature extremes and are unlikely to bite when the temperature is below 60°F (15.5°C) or above 99°F (37.2°C). As such, chigger activity is most common during the warmer months, particularly in late spring and summer.

Treatment

Treatment of chigger bites is primarily symptomatic, focusing on relieving the intense itching associated with the bites. Topical treatments such as calamine lotion or corticosteroid creams are commonly used to soothe the skin and reduce inflammation. Oral antihistamines, such as Benadryl, may also be beneficial in managing itching and allergic reactions.

Despite the popular belief that applying substances like clear nail polish, rubbing alcohol, or bleach can “suffocate” the mites, these methods are ineffective. This is because chiggers do not burrow into the skin; rather, they attach to the surface and feed on the skin cells. Therefore, these substances cannot remove the mite or prevent further irritation.

Chigarid, a non-FDA-approved topical treatment, is sometimes used for symptomatic relief. This product contains a combination of camphor, phenol, and menthol, which may provide temporary relief from itching by cooling the affected area and reducing irritation.

Conclusion

Chiggers, though small and largely invisible, can cause significant discomfort due to the intense itching and skin irritation resulting from their bites. While the larvae of the chigger mite are the culprits responsible for these bites, the adult mites do not contribute to the parasitic behavior.

Prevention through protective clothing and the use of insect repellents can help reduce the risk of bites, especially when spending time outdoors in areas prone to chigger infestations. Treatment is primarily focused on managing the symptoms, particularly itching, through topical treatments, antihistamines, and proper skin care. Although chigger dermatitis is generally self-limiting and not life-threatening, it can cause prolonged discomfort, making effective symptom management important for those affected.

References

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