

## **Insect bite-induced hypersensitivity**

**Also known as** Papular urticaria

### **What is papular urticaria?**

Papular urticaria is a term used to describe hypersensitivity or an allergic reaction to insect bites manifested by recurrent and persistent itchy lumps or fluid filled blisters.

Despite its name, papular urticaria is not a true urticaria (a true urticaria has temporary wheeling or hives that resolve within hours).

### **What causes papular urticaria?**

Papular urticaria is generally thought to be the result of an unusual and abnormal hypersensitivity reaction to bites from insects such as mosquitoes, fleas, mites, bedbugs and particularly bird mites. However, it can be nearly impossible to work out what a person is reacting to.

The condition can occur at any age but it is seen most often in children 2 to 10 years of age. Adults can be affected but at a much lower rate.

The condition is related to an individual's immune response rather than the insect bite itself. Usually only one member of a family is affected. The condition is not contagious.

### **What does papular urticaria look like?**

Papular urticarial begins as very itchy, red and swollen lumps. A water filled blister may develop within 1 to 3 days. When it subsides, it may leave a darkened mark.

Scratching leads to crusting, bleeding and ulcers. Infections or persistent scarring may occur especially if the area is scratched deeply and repeatedly.

Lesions tend to occur in groups or clusters that are symmetrically distributed. The lesions not only appear at the site of insect bites but also on any part of the body, particularly on exposed areas such as the face, forearms and lower legs.

Papular urticaria usually persists for weeks or even months, reactivating when new bites occur.

### **How is papular urticaria diagnosed?**

Papular urticaria is usually diagnosed based on a skin examination. Features that suggest an insect bite reaction include grouping of red lumps and bumps that correlate with exposure to insect bites. In some cases, a skin biopsy may be needed.

### **How is papular urticaria treated?**

Papular urticaria is usually self-limiting which means that children or affected individuals eventually outgrow it, probably through desensitisation after multiple exposures to insect bites. In rare cases, the condition may recur after months or even years.

### **Preventative measures**

- Wearing protective clothing for outdoor play.
- Using insect repellents judiciously. Because of the potential for toxicity, the lowest effective

repellent doses should be selected, especially in children.

- Families with pets should exercise flea control in their home, including using flea collars, flea medication, frequent bathing of the dog or cat.
- Families should consider professional pesticide treatments to ensure removal of allergens and avoid keeping chickens or pet birds.

#### **Symptomatic treatments**

- Antipruritics (anti-itching creams such as calamine or menthol lotion or cream) to help relieve the itch
- Topical steroids applied to affected areas at the onset of symptoms
- Systemic antihistamines for relief of symptoms
- Short-term use of oral anti-inflammatory corticosteroids may be needed in severe cases
- Topical or oral antibiotics may be needed if infection occurs.

#### **What is the likely outcome of papular urticaria?**

The condition is usually persistent and commonly recurs. However, individuals develop tolerance to insect bites eventually and symptoms will resolve. Further testing or investigations are not necessary and may be overly invasive.