

CORRESPONDENCE

Chronic papular urticaria due to pigeon ticks in an adult

Itchy papular skin lesions may prompt wide differential diagnosis, including scabies, prurigo simplex, “true” urticaria, papular drug reaction, delusions of parasitosis and papular urticaria.

A thorough history taking and the distribution of the rash will aid in the diagnosis.

A 41-year-old man, with known seasonal allergic rhinitis and mild intermittent asthma, sensitized to birch pollen, presented with itchy bumps on his face and arms. Examination showed multiple, grouped, 3- to 10-mm red papules, sometimes with central scale and crusting, scattered over his face, neck and arms (*figure 1A*). Although he developed lesions continually for 3 years, they tended to increase in severity during late spring and summer. Treatments included oral antibiotics, anti H1-histamines and topical corticosteroids with partial improvement. He lived alone in an attic with no pet in the home. The house roof was a pigeon breeding site and the patient’s bedroom opened onto a balcony where pigeons used to “stroll”.

The clinical history and the physical findings were suggestive for papular urticaria due to pigeon tick bite reactions. The patient collected several ticks in his apartment, which were identified as pigeon tick *Argas reflexus*.

A search for *Argas reflexus* specific IgE was performed by immunoblot and ELISA. No IgE reactive bands were

detected to whole *Argas reflexus* extract (*figure 1B*) and no specific IgE could be quantified by ELISA using recombinant Arg r 1 (detection limits down to 0.1 kU/L) (data not shown). However, two IgG reactive bands were detected by immunoblot, one of those corresponding to Arg r 1 (*figure 1B2*).

This is the first report of papular urticaria due to pigeon tick *Argas reflexus* in an adult. Papular urticaria is an allergic hypersensitivity reaction to arthropod bites, commonly observed in children, who generally “outgrow” the condition. Many different parasites can cause papular urticaria, most commonly cat fleas (*Ctenocephalides felis*), dog fleas (*C. canis*), human fleas (*Pulex irritans*), and bedbugs (*Cimex lectularius*). Rarely, a coincidental infestation of a single patient with several ectoparasite species deriving from feral pigeons has been reported [1].

Delayed type hypersensitivity (DTH) is the basis for the clinical chronicity of insect bite-induced hypersensitivity. Continued and repeated exposure to the inciting antigen results in immediate skin reactions but also in a cycle of DTH-mediated lesions. This sequence is perpetuated until the offending agent is eliminated or the individual becomes desensitized, which can take weeks, months, and sometimes years [2]. The clinical picture of our case does not support a pathogenetic role of IgG in an autoimmune complex disease of Arthus type, as no cutaneous lesions progressed to necrotizing ulcers. Actually, IgG responses have also been reported in healthy subjects exposed to flea bites [3].

Argas reflexus is a soft tick which feeds on pigeons’ blood. Because of the growing number of pigeons in Middle and Southern Europe, infestations of pigeon breeding sites by *Argas* is an increasing problem. When these are in the vicinity of buildings, ticks may invade nearby apartments and bite human beings, particularly during the night. *Argas reflexus* may cause large local inflammatory reactions, acute urticaria and anaphylactic systemic reactions [4-6]. More than 80% of the sera from subjects with positive skin reactions to *Argas* showed IgE-binding to a protein of approximately 22 Kd, which is considered the dominant allergen of *A. reflexus*, Arg r 1. The allergen has been isolated and the corresponding cDNA cloned [6].

This is the first case of papular urticaria due to pigeon tick bites reported in an adult, who showed strong IgG response to *Argas* antigens. Extensive pest control succeeded in keeping the patient’s apartment tick-free and produced a dramatic cure. ■

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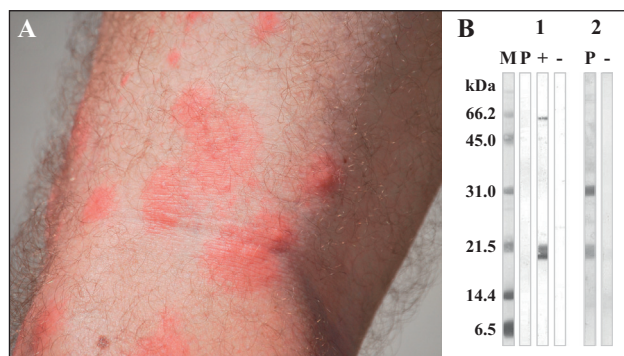


Figure 1. Papular eruption on right arm (A), and detection of antibodies directed to *Argas reflexus* by immunoblot (B). Whole body extract was separated by 15% SDS-PAGE. IgE (B1) and IgG (B2) immunoblot was performed using patient serum (P) and positive (+) and negative (-) controls. Reactive bands at 21 kDa correspond to Arg r 1.

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