Case Report

Exotic Pets Are New Allergenic Sources: Allergy to Iguana

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Abstract. Although furry animals are known sources of respiratory allergy, scaly animals are assumed not to be allergenic. Exotic animals such as iguanas are becoming increasingly common pets. Nevertheless, these animals are not suspected to be allergenic. We present the case of a 42-year-old woman suffering from allergic rhinoconjunctivitis and asthma caused by a pet iguana. Clear IgE-sensitization and respiratory allergy to iguana scales is demonstrated, suggesting that scaly pets should be taken into account as possible allergenic sources.

Key words: Allergy. Aeroallergens. Asthma. Iguana. Lizard. Pets. Rhinitis

Resumen. Aunque los animales con pelo son fuentes conocidas de alergia respiratoria, se cree que los animales con escamas no son alergénicos. Animales exóticos como las iguanas se están convirtiendo cada vez más en animales domésticos habituales. Sin embargo, estos animales presuntamente no son considerados alergénicos. Se presenta el caso de una mujer de 42 años de edad con rinoconjuntivitis y asma causadas por alergia a una iguana doméstica. En este estudio, quedan claramente demostradas la sensibilización mediada por IgE y la alergia respiratoria a las escamas de iguana. Por tanto, concluimos que los animales con escamas también deberían ser considerados como posibles fuentes alergénicas.

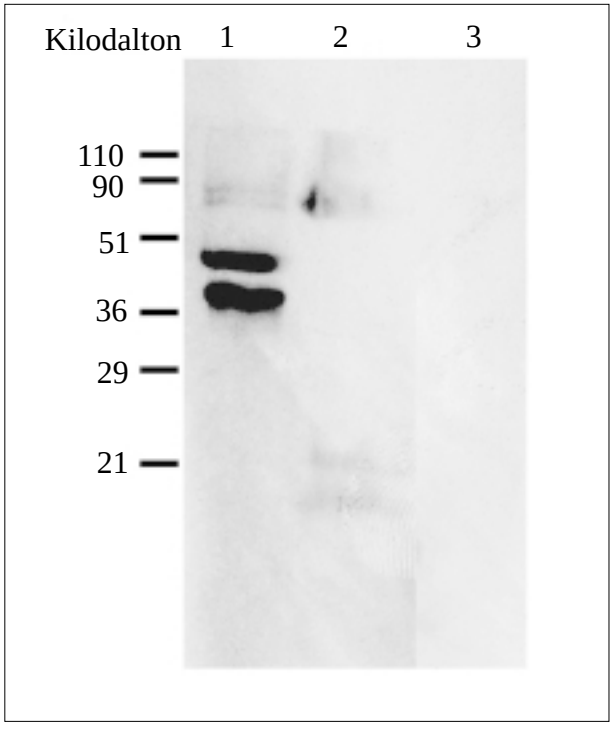
Palabras clave: Alergia. Aeroalérgenos. Asma. Iguana. Lagarto. Animales domésticos. Rinitis

Introduction

Domestic furry animals are important sources of allergic rhinitis and asthma. Allergens found in the dander, hair, saliva, and/or urine of these animals become airborne, leading to sensitization and symptoms in predisposed individuals [1, 2]. Although furry animals are known sources of respiratory allergy, scaly animals such as lizards are assumed not to be allergenic. We describe a patient suffering from allergic rhinoconjunctivitis and asthma to a pet iguana.

Case Description

A 42-year-old woman attended the Allergy Department complaining of rhinoconjunctivitis and asthma symptoms of 2 months' duration. A complete allergy history, including pet exposure, was performed. The patient initially denied exposure to pets. Skin prick tests (SPT) with panels of common allergens elicited negative results. Consequently, symptomatic treatment for rhinoconjunctivitis and asthma was recommended. Nevertheless, in subsequent visits severity of symptoms had worsened, and the patient stated that those symptoms occurred exclusively when she was at home. When questioned further on any possible allergenic sources, she admitted the presence of a pet green iguana belonging to her son. Extracts from scales and urine of the iguana were prepared. Iguana scales were frozen at –80°C, pulverized with a pestle, dissolved in phosphate buffered saline with shaking for 2 to 3 hours, and centrifuged to separate insoluble material. The supernatant containing soluble material was dialyzed against water and freeze-dried. Iguana urine was centrifuged and the supernatant dialyzed and lyophilized, as described elsewhere [3]. Reptile extracts were fractionated by electrophoresis in 12.5% sodium dodecyl sulfate polyacrylamide gels. Gels were stained with Coomassie blue to reveal the protein profile of each extract. Western blots of serum from the allergic patient were developed using peroxidase-conjugated anti-human IgE (Dako, Barcelona, Spain) and Western



Immunoblot showing IgE-binding profile. Immunoblots were performed following sodium dodecyl sulfate polyacrylamide gel electrophoresis of iguana scale extract (lane 1), iguana urine extract (lane 2), and a negative control (lane 3).

Lightning Chemiluminescence Reagent PLUS (Perkin Elmer, Boston, USA), according to a previously described method [4]. SPT and nasal challenge were also performed with the iguana-scale extract. SPT with iguana-scale extract elicited a positive result, whereas the result was negative in 10 controls. Nasal challenge test with the scale extract was also positive. IgE antibody-binding revealed 2 major bands in the molecular weight range of 40 to 50 kilodaltons in the iguana scale extract (Figure). Faint bands could also be seen in the urine extract. The patient was then advised to avoid iguana exposure. Her condition improved immediately after removal of the iguana from her home.

Discussion

In this case report, clear IgE sensitization and respiratory allergy to iguana scales were demonstrated. The literature on allergy to iguana is limited. Hypersensitivity to lizards and particularly to iguana has rarely been reported. An asthmatic patient was reported to show positive results in the prick test and rubbing test with scales from the lizard *Ergenia cunningami* [5]. A recent report described a young patient diagnosed by biopsy as suffering from dermal hypersensitivity after iguana bites, although in that case the patient only suffered a skin reaction [6]. To our knowledge, only 1 previous case of allergy to iguana has been reported to date [3]. As in the case presented here, that patient also had IgE antibodies that recognized a 40-kilodalton protein in scale extract from his pet iguana. In this report, we also investigated the presence of allergens in the iguana's urine and demonstrated respiratory allergy to iguana scales with a positive nasal challenge test. The keeping of exotic animals such as lizards as household pets is increasing. Those who keep pet iguanas, which are particularly attractive to adolescents, should be aware that apart from carrying bacteria that can be a source of infection [7, 8], they can also be a source of allergy. The identification of unknown factors responsible for allergic sensitization determines the prognosis and treatment of patients with respiratory airway disease. Allergy history should include questions about any kind of pets. Also, as in the case presented, allergy to scaly pets should be taken into consideration. If not, such allergies may go undiagnosed. Given the increasing popularity of iguanas as pets, hypersensitivity to these animals may become more prevalent.

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