

Allergy to iguana

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INTRODUCTION

Currently exotic animals are being acquired with increasing frequency as pets. The iguana is a reptile that belongs to the sauria family and in recent years has become popular as a household pet.

CASE REPORT

A 38 year old woman was referred to our allergy unit because she related a clinical picture of dyspnoea, cough, wheezing, rhinorrea, nasal congestion and sneezing for the last year. The symptoms had a perennial character and worsened at home, especially when she cleaned a room where two iguanas had been living for the last 3 years. She had attended the Emergency Department on two occasions for acute asthmatic exacerbations; one of the episodes was challenged when she carried the iguanas to the veterinary. She is a housewife, without toxic habits. Her medical and family history showed nothing remarkable.

Blood test results were normal, total serum IgE level was 92 IU/ml, Chest radiography findings were normal, results of lung function test were: FEV₁: 2.7 L (98 %), with a FVC of 3.75 L (106 %), and FEV₁/FVC ratio of 71.2 % and a positive bronchodilator test.

Skin prick test (SPT) to common allergens (including pollens, moulds, animal danders, and house dust mites) were negative.

Iguana scales, urine and stools extracts were collected from patient's house, and prepared according to the method previously described^{1,2}.

The SPT result for iguana scale extract, elicited a wheal of 8 × 7 mm, being negative in 10 controls.

Analysis of serum IgE concentration using the enzyme allergosorbent test (EAST) revealed the following results: specific IgE to iguana scales: 9.5 kU/l, specific IgE to extract made of urine and stools: 2.2 kU/L.

Sodium dodecyl sulphate-polyacrilamide gel electrophoresis and IgE immunoblot analysis (SDS-PAGE) were performed as previously described³ under reduced conditions, revealing in the scale extract various protein bands ranging from about 35 to over 40 kd. The extracts prepared with urine and stools showed various protein bands ranging from 50 to 80 kd (Fig. 1).

Bronchial challenge test (BCT) with scale extract was performed following the recommendations of Sterk et al⁴ to ensure the safety of the procedure. The patient showed an isolated early reaction with a PC₂₀ of 5 mg/ml, with a 22 % fall in FEV₁ from baseline. Symptoms relieved 20 minutes after salbutamol inhalation, and improvement of spirometry was observed. Peak spiratory flow monitoring showed no decrease for the next 12 hours. Specific BCT were negative in control 2 subjects tested. Informed consent was obtained from patient and control before BCT.

DISCUSSION

Allergy to furry pets such as cats and dogs causes significant morbidity in allergic patients, although until now, scaly animals, such as lizards, snakes and so on were assumed not to be allergenic. However,

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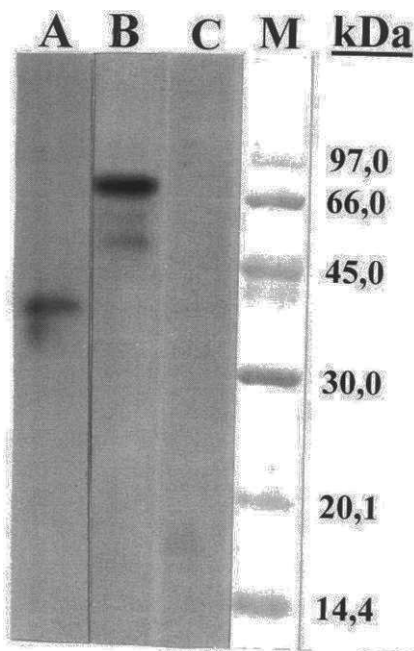


Figure 1.— SDS-PAGE immunoblotting with scale extract: (A) with urine and stools extract; (B) control serum (pooled from non-atopic individuals); (C) M: molecular mass marker.

in recent years the presence of exotic animals as house pets has been increasing and the exposure to them will probably increase the sensitisation among patients exposed.

We describe a non-atopic patient with rhinitis and asthma and sensitisation exclusively to iguana. Until now there are very few reports on allergy to iguana^{1,2}.

The first report of allergy to a scaly reptile was published in German: Uhl³ describes in 1985 a patient sensitised to *Egernia Cunninghami*, a reptile of the Scincidae family; since then two reports have been published of allergy to iguana^{1,2}. Kelso describes a 32 year old man with rhinitis and asthma sensitised exclusively to iguana, with the immunoblot revealing the presence of IgE antibodies that recognize bands at 40 kd in the patient's iguana scale extract, but finds a 80 kd band in an extract from zoo iguana, they conclude that these probably represent the same protein, but detect different bands due to polymerisation or cleavage of proteins.

San Miguel² also describes an asthmatic woman sensitised to iguana and finds specific IgE that rec-

ognizes two mayor bands in the molecular weight range of 40 to 50 kd in an iguana scale extract and faint bands in the urine extract.

In our study the pattern of IgE binding indicates the presence of various protein bands in the scale extract, with a molecular weight of 40 kd, as reported in previous studies. In the extract made of urine and stools, bands with a molecular weight of 50-80 kd was detected which suggests the presence of allergens in that extract too.

Atopic status seems to be a risk factor for sensitisation to furry animals, in the few cases reported until now in the literature to allergy to iguana the patients were non-atopic.

The present study reveals that the iguana is a causative agent of allergic asthma and rhinitis based on clinical course, and allergy study: SPT response, BCT, detection of specific IgE to iguana extract, and IgE binding to components of iguana.

As previously described⁶ some patients diagnosed as having "non-allergic asthma or rhinitis" may in fact be sensitised to unknown allergens not included in skin test batteries of common aeroallergens. Of particular significance is the detection of removable allergenic sources such as pets⁷. In this case the presence of iguanas should be taken into consideration as a cause of respiratory disease in exposed patients.

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