



# CUTANEOUS LOXOSCELISM PREDOMINANTLY EDEMATOUS: CLINICAL CASE

LOXOSCELISMO CUTÁNEO PREDOMINANTEMENTE EDEMATOSO: CASO CLINICO

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## ABSTRACT

**Introduction:** The spider bite of the genus *Loxosceles* is a public health problem in regions of Latin America. In Peru, it occurs more frequently in homes in the coastal region and could have serious consequences, including death in the case of cutaneous and visceral loxoscelism (CVL). **Clinical Case:** The case of a pediatric patient with a suspected spider bite is presented below. The clinical picture developed with marked edema of the face and neck, without developing respiratory distress and without evidence of systemic compromise. The slow resolution of the edema and the lack of response to the treatment of choice for angioedema allowed us to guide the diagnosis to predominantly edematous cutaneous loxoscelism (CLEP), which is an infrequent form of presentation.

**Keywords:** Spider bites; spiders. (Source: MeSH NLM).

## RESUMEN

**Introducción:** La mordedura de araña del género *Loxosceles* constituye un problema de salud pública en regiones de América Latina. En Perú se presenta con mayor frecuencia en viviendas de la región costera y podría tener consecuencias graves, incluso causar la muerte en caso de presentar loxoscelismo cutáneo visceral (LCV). **Caso Clínico:** A continuación, se presenta el caso de una paciente pediátrica con presunción de mordedura de araña. El cuadro clínico se desarrolló con edema marcado de cara y cuello, sin desarrollar dificultad respiratoria y sin evidenciarse compromiso sistémico. La lenta resolución del edema y la ausencia de respuesta al tratamiento de elección del angioedema permitió orientar el diagnóstico a loxoscelismo cutáneo predominantemente edematoso (LCPE), la cual constituye una forma poco frecuente de presentación.

**Palabras clave:** Picaduras de arañas; Arañas. (Fuente: DeCS BIREME).

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## INTRODUCTION

Loxoscelism is a common accident in places with a tropical climate, frequent in the Latin American continent, produced mostly in the intradomiciliary environment that could lead to significant morbidity and mortality; *Loxosceles laeta* is the most commonly identified species of house spider, also known as the corner spider<sup>(1,2)</sup>.

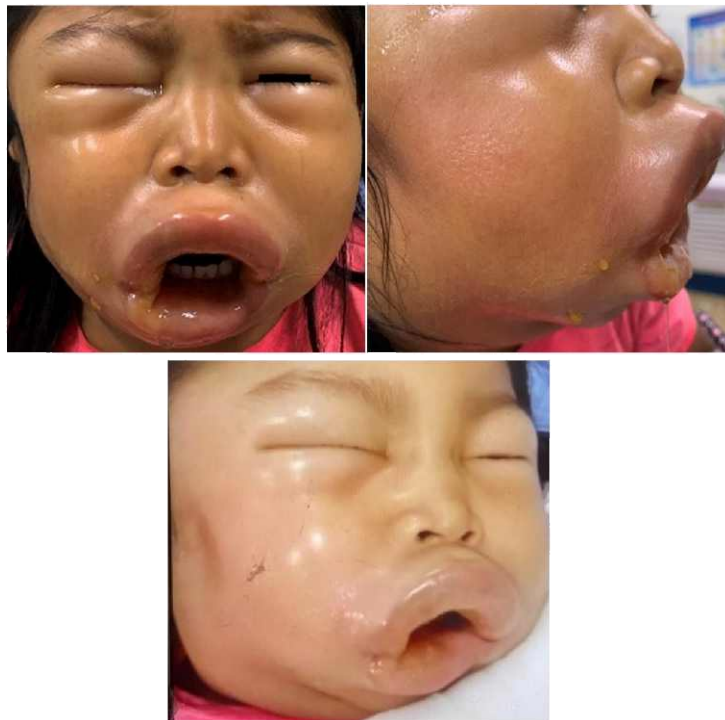
In Peru, through the National Center for Epidemiology, Prevention and Disease Control (CDC Peru), 9 000 cases of loxoscelism have been reported during the last five years, 86.2% of them coming from the Amazon regions, San Martin, Arequipa and Lima<sup>(3)</sup>.

In addition, an epidemiological study carried out in the country found that those people from marginal urban areas were the most affected by spider bites (90% of cases), with more reports in the summer-autumn months<sup>(4,5)</sup>.

The most common presentation of loxoscelism is the necrotic cutaneous form and the CVL<sup>(6)</sup>. However, a clinical variant known as CLEP has been reported, albeit infrequently, which does not develop visceral involvement and has a favorable response to medical treatment.

## DESCRIPTION OF THE CLINICAL CASE

A four-year-old female patient from Ica, with no relevant personal history, was admitted to the Pediatric Emergency Service, with a disease time of twenty hours of evolution, characterized by rapidly progressive edema in the face and neck, with suspected spider bite on the lip. The relatives reported living in a rustic house with the presence of many spiders. On clinical examination, the patient was hemodynamically stable, without respiratory distress, with marked edema on the face, predominantly the upper lip, somewhat violaceous in color, and with decreased palpebral opening (Figure 1).



**Figure 1.** Clinical presentation of the case with marked edema on the face.

Upon admission, a blood test was requested, which showed a normal blood count, without leukocytosis, normal platelets, normal hemoglobin values, and preserved kidney and liver function. Given the suspicion of anaphylaxis, treatment with epinephrine was indicated in repeated doses and then in continuous perfusion.

However, there was no response to treatment, but vital signs remained stable throughout his evolution. The management of the case also included antihistamines, intravenous corticosteroids, double antibiotic coverage, and anti-loxosceles serum was indicated when loxoscelism was suspected, which became effective after 24 hours of evolution.



The edema slowly resolved and the patient was discharged ten days after admission with a slight remnant of it.

## DISCUSSION

Diagnosis of loxoscelism is a clinical challenge and the vast majority is presumptive, since the bite of the *Loxosceles laeta* spider does not present pathognomonic signs or symptoms and there are no auxiliary methods to confirm the diagnosis. In addition, to date it has not been possible to establish a prediction of the evolution of poisoning, which is a key point for the management and reduction of morbidity, mortality and costs for the patient and for the state<sup>(1,7)</sup>.

The severity of the clinical picture depends on the type and amount of venom injected and possible associated infections. Female spiders can store a larger volume of venom in their glands, and some can bite without injecting any venom, inflicting so-called "dry bites"<sup>(8)</sup>. Although CLEP appears to have a benign course, it has been reported that edema can cause airway obstruction<sup>(9)</sup> as well as compartment syndrome<sup>(10)</sup>. Therefore, it is important to take a good clinical history of the patient and provide the appropriate management of suspected CLEP.

The venom contains hyaluronidase, RNase, DNase, alkaline phosphatase, lipases, and sphingomyelinase D<sup>(8)</sup>. It has necrotizing, hemolytic, vasculitic and coagulant properties. At the dermal level, it causes areas of vasoconstriction and others of hemorrhage, which progress to local ischemia and the consequent formation of a gangrenous plaque, seen in cutaneous loxoscelism (CL). If the venom reaches the systemic circulation, it exerts a great hemolytic power, developing the clinical picture of CVL, which could include complications such as hemolytic anemia, acute renal failure and disseminated intravascular coagulation<sup>(11,12)</sup>.

Bacteria colonizing skin lesions caused by *Loxosceles* bites, such as *Clostridium Perfringens* and *Staphylococcus*, have even been identified. Methicillin resistant *Staphylococcus Aureus*; in many cases they are considered responsible for the most serious dermonecrotic lesions<sup>(8)</sup>.

In the clinical case presented, the sudden and progressive onset of facial edema led to the consideration of angioedema as the first diagnostic possibility; however, the treatment of choice with epinephrine was not what was expected, there was no resolution and, on the contrary, the course of resolution was slow with the use of systemic antihistamines and corticosteroids. However, there were no signs of respiratory distress or systemic compromise, so the possibility of angioedema was ruled out.

In Latin America, a case of CLEP has been reported in 2015 in Chile<sup>(11)</sup>, with a preschool patient who went to the Emergency Service due to fever and palpebral edema that prevented him from opening the eye, which was associated with pain and extended on the right side of the face, but without evidence of other clinical manifestations. The treatment was provided with intravenous penicillin, hydrocortisone and chlorphenamine, obtaining a slow resolution from the eighth day of hospitalization; clinical picture similar to that presented in this case report.

Therefore, the suspicion of the relatives of a spider bite and the clinical evolution described make the diagnosis of CLEP more suggestive. This clinical form, which occurs infrequently, has a benign clinical course, with no visceral involvement, it is self-limited, does not present a necrotic lesion or is minimal, and in which edema predominates, which could reduce the possibility of necrosis by diluting the enzymatic process produced by the poison. In addition, it has been shown that CLEP has a good, although slow, response to medical treatment.

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