Dermatosis Caused by Blood-Sucking Corythucha Ciliata

Native to temperate regions of North America, Corythucha ciliata, or lace bug, is an invasive insect that is spreading from relatively cold regions to relatively hot regions and is now distributed throughout the temperate and subtropical zones. Until recently, lace bugs were not reported in the scientific literature as biting or stinging humans.

Report of a Case | A healthy man in his 20s presented with pruriginous skin lesions of several weeks’ duration suggestive of insect bites (Figure 1). Results of a search for Sarcoptes by skin scrapings and microscopy were negative, and the lesions were considered related to bedbug bites. Surprisingly, during the examination, the patient felt a sting on the chest, where a small insect (2- to 3-mm long) was discovered (Figure 2), identified as an adult C. ciliata.

Subsequently, more adult lace bugs were provided by other patients presenting with similar symptoms, and these were evaluated under a binocular magnifier for entomological identification. The probable presence of blood in the insects’ digestive apparatus was noticed for each insect. For insect identification, a fragment of the mitochondrial cytochrome oxidase 1 gene was amplified, as previously described. To assess the presence of a blood meal and evaluate its origin, a fragment of vertebrate cytochrome b gene was amplified for sequence analysis, and a fragment of human β-globin was amplified and directly sequenced with primers for the human β-globin Control Primer set of the Takara kit (Takara Bio).

All insects were identified unambiguously as C. ciliata by sequence alignment. The presence of human blood in each insect was confirmed by alignment of sequences of both studied genes.

Discussion | Blood-sucking lace bugs appear to be an emerging problem. In 2013, 3 cases of slight dermatosis in Italy were attributed to bites of the lace bug, but the causality was not demonstrated. Our case report and the molecular study of blood ingested indicate that C. ciliata may bite humans. As with the bites of bedbugs, the bites of lace bugs generally go unnoticed; most people do not report a reaction to the bite, and cutaneous lesions and systemic reactions develop in only a small proportion of those bitten. We did not observe bacterial or fungal infections among the reported cases, although this may occur with scratching.

Corythucha ciliata was reported for the first time in Europe in Padua, Italy, in 1964, and for the first time in France, in Antibes in 1975. Its host (Platanus species), a native forest tree, is used as a common shade and ornamental tree in many urban and suburban areas. Corythucha ciliata can usually be found on trees growing in natural stands, but as a pest, it is abundant in urban and suburban forests. In summer, adult lace bugs can become abundant and often drop from leaves and land on people. Adult lace bugs can also invade houses.

How this usually oligophagous and vegetarian insect became a human bloodsucker, and what proportion its numbers made the change, warrants dedicated studies. The possibility of C. ciliata biting multiple people in sequence should be considered, with implications for transmission of infectious agents. Whether the insect can bite other animals is unknown.
Lace bug infestations may have health consequences, including nuisance biting and cutaneous and systemic reactions. Clinicians should be aware of the existence of this insect with its newly recognized bloodsucking ability as potentially responsible for skin lesions and pruritus that can cause real discomfort and anxiety. Bites from the lace bug may also be considered in the differential diagnosis of bedbug bites and scabies.

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Conflict of Interest Disclosures: None reported.

Funding/Support: This study was partially funded by a research grant from the French Society of Dermatology.

Role of the Funder/Sponsor: The French Society of Dermatology had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and the decision to submit the manuscript for publication.

Additional Contributions: We thank the staff at the dermatology department at Avicenne Hospital, Bobigny, France.


**Nodular Amyloidosis of the Penis: A Case Demonstrating Keratinocyte Origin**

Herein we describe the first case to our knowledge of primary nodular amyloidosis of the glans penis, in which the amyloid originates from keratinocytes rather than immunoglobulins.

**Report of a Case** A man in his 50s presented with a 6-year history of slowly expanding asymptomatic lesions on the penis that “bruised” after sexual activity and had eluded correct diagnosis for over 6 years. On examination, the patient had painless, raised, firm, translucent-to-yellowish nodules on the glans penis and distal shaft, suggestive of nodular amyloidosis (Figure 1). The biopsy revealed a mixed cellular infiltrate of lymphocytes and plasma cells as well as a few globules of amorphous hyaline-like material in the reticular dermis (Figure 2A). Congo red staining was positive, with birefringence (Figure 2B). Immunohistochemically, the amyloid was positive for 34βE12 (Figure 2C). No specific staining for either κ or λ light chain was seen. Screen results for systemic amyloidosis with serum immunoglobulin light chains and urinary Bence-Jones proteins were negative. The clinical appearance, the histologic findings, and the absence of systemic involvement were consistent with the diagnosis of primary cutaneous nodular amyloidosis of the glans penis.

**Discussion** Primary cutaneous nodular amyloidosis is typically characterized by single, tan or yellow, waxy nodules or plaques that preferentially occur on acral areas such as the lower extremities, head, trunk, scalp, and genitals. To our knowledge, 14 cases of primary cutaneous amyloidosis of the penis have been reported, and all were the nodular type.

In contrast to keratin-derived deposits found in cutaneous macular amyloidosis and lichen amyloidosis, light chain-derived amyloid has historically been the histologic...