

CASE AND RESEARCH LETTER

[Translated article] Janeway-Like Lesions Associated With Sepsis Secondary to a Respiratory Infection



Lesiones tipo manchas de Janeway asociadas a sepsis de origen respiratorio

To the Editor:

Janeway lesions were first described by Edward Janeway in 1899 in patients with infective endocarditis.¹ At present they are part of the minor diagnostic criteria (modified Duke criteria) for the disease together with other cutaneous manifestations such as Osler nodes.^{1–3} However, in recent decades, cases of Janeway-like lesions have been described in connection with other infectious diseases.

A 69-year-old man complained of fever and shivering lasting 24 h with no other signs or symptoms but general deterioration of his health. The physical examination showed tachypnea, impaired consciousness (Glasgow Coma Scale score, 12), and low blood pressure (90/60 mmHg). Additional tests ordered in the emergency department revealed leukocytosis with neutrophilia, elevated procalcitonin levels, electrolyte imbalance, and metabolic acidosis. Transthoracic echocardiography did not detect vegetation. The patient was admitted to the intensive care unit with a clinical diagnosis of sepsis of unknown focus (3 points on the quick Sequential Organ Failure Assessment (qSOFA) scale, and empirical antibiotic treatment was prescribed. Subsequently, we requested evaluation due to the appearance of painless skin lesions on the palms. Cutaneous examination revealed millimetric erythematous-violaceous macules with an annular pattern on both hypothenar eminences (Fig. 1A and B), as well as a bleeding longitudinal lesion on the nail of the third finger of the right hand consistent with a splinter hemorrhage. The patient had no plantar involvement. A skin biopsy revealed an inflammatory infiltrate of predominantly polymorphonuclear neutrophils in the pap-



Figure 1 Clinical findings. (A and B) Dermatologic examination revealed millimetric annular macules with an erythematous-violaceous coloration on both palms.

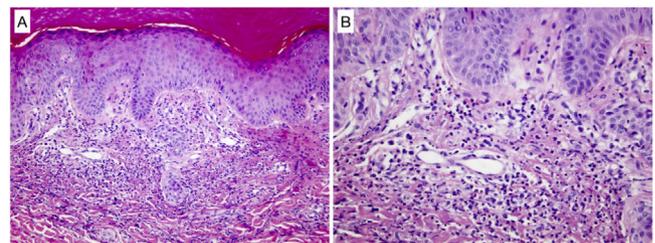


Figure 2 Histologic findings of a biopsied lesion showed dermal but no epidermal abnormalities. (A) Superficial dermal neutrophilic focal infiltration forming poorly defined microabscesses with no signs of vasculitis (hematoxylin-eosin, original magnification $\times 100$). (B) Further enlargement (original magnification $\times 200$) confirmed the absence of vasculitis and also identified mild karyorrhexis and isolated eosinophils.

illary dermis forming a microabscess without vasculitis or fibrin emboli (Fig. 2A and B). The epidermis and the glomus presented no abnormalities. The Gram stain was negative. These histologic findings supported the diagnosis of Janeway lesions.

The culture of 1 of the lesions and blood cultures were negative. Serial transthoracic and transesophageal echocardiography ruled out the presence of endocarditis, and an ophthalmologic examination showed no abnormalities. Laboratory tests showed progressive deterioration of kidney

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Table 1 Cases of Janeway-Like Lesions With No Signs of Endocarditis.

	Clinical manifestations	Skin biopsy	Microbiologic studies	Additional tests	Final diagnosis
Reddy et al. (2013)	Erythematous macules, papules, and vesicles on palms and soles. Fever, dyspnea, and productive cough.	Epidermal necrosis, neutrophilic abscess in reticular dermis with the presence of gram-positive coccobacilli in the center. No signs of vasculitis.	<i>Staphylococcus aureus</i> resistant to methicillin in sputum, blood, and skin cultures	Chest X-ray: bilateral lower lobe consolidations. Transthoracic and transesophageal echocardiography negative.	Janeway-like lesions secondary to staphylococcal septicemia
Yamamoto et al. (2014)	Painless reddish-blue spots on palms and soles, subconjunctival bleeding, and erythema with scaling on the scalp and limbs. General malaise and fever.	No	<i>S aureus</i> sensitive to methicillin in blood cultures	No	Staphylococcal septicemia secondary to psoriatic erythroderma with associated Janeway-like lesions
Mathes et al. (2016)	Multiple erythematous macules and papules on the right hand upon removal of the right radial arterial catheter inserted for blood pressure monitoring.	No	Skin culture: <i>S aureus</i> sensitive to methicillin	Ultrasound: pseudoaneurysm of the radial artery with extravasation.	Janeway-like lesions secondary to infected radial aneurysm
Hernández-Ramírez et al. (2017)	No systemic symptoms. Janeway-like lesions on the sole of the left foot 1 month after bypass of the left femoral vessels during heart surgery for extracorporeal membrane oxygenation.	No	Blood and skin cultures: <i>Pseudomonas aeruginosa</i>	Transesophageal and transthoracic echocardiography: no signs of endocarditis. Computed tomography: pseudoaneurysm of the left femoral artery.	Localized Janeway-like lesions following extracorporeal membrane oxygenation
Our case (2021)	Fever. Erythematous-violaceous annular macules on hypothenar eminences, bleeding longitudinal on the third finger of the right hand. No plantar involvement. General malaise, fever, and shivering.	Polymorphonuclear neutrophils forming a microabscess in the papillary dermis. No signs of vasculitis or fibrin emboli. Epidermis and glomus with no abnormalities.	Blood and skin cultures: negative. Culture of bronchoalveolar lavage fluid: <i>Enterobacter asburiae</i> , <i>Klebsiella pneumoniae</i> .	Transthoracic and transesophageal echocardiography: no signs of endocarditis Computed tomography: lung infection. Ophthalmologic study: no abnormalities.	Janeway-like lesions secondary to a respiratory infection

function (creatinine 3.2 mg/dL) and the ratio of PaO₂ to the inspired oxygen fraction (<300 mmHg). Computed axial tomography later revealed an infectious pulmonary focus, and, following bronchoscopy, *Enterobacter asburiae* and *Klebsiella pneumoniae* were isolated in the bronchoalveolar lavage.

Based on clinical and histologic findings and additional test results, we established a final diagnosis of sepsis of respiratory origin (qSOFA, 4 points) with associated Janeway-like lesions. The skin lesions resolved in a few days, but the patient developed multiple complications and died 4 months after admission.

Janeway lesions, together with Osler nodes, constitute the main skin manifestation of infective endocarditis.^{1,2} Traditionally, Osler nodes have been associated with sub-acute cases and Janeway lesions with acute cases of endocarditis.^{1,3} Their prevalence ranges from 5% to 15% in infective endocarditis, although this figure may be an underestimation.³ The exact pathogenesis of skin lesions associated with infective endocarditis is still debated.^{1,4,5} Clinically, Janeway lesions are characterized by small, painless erythematous macules and are located on the palms and soles. They may last from days to weeks and disappear leaving no residual lesions.^{1,3-6} Classic histologic findings include the presence of dermal microabscesses with no signs of vasculitis, although recent publications argue that diverse histologic patterns are possible.^{1,3,6} Microbiology cultures are not always positive. While such lesions were initially described in connection with infective endocarditis, their presence is not limited to this disease alone. In recent years, cases of Janeway-like lesions have been reported in staphylococcus septicemia (2 cases) and following endovascular procedures (2 cases) (Table 1).⁷⁻¹⁰ Infective endocarditis was reasonably ruled out in all those cases. Our report of these lesions in a patient with a non-staphylococcus respiratory infection can be included in this group of Janeway-like lesions not associated with infective endocarditis.

We present the first case described to date of Janeway-like lesions secondary to a respiratory infection. When such lesions are observed, we think it important to consider possible infectious causes other than infective endocarditis and to investigate a possible history of a recent endovascular procedure.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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N. Moreiras Arias^{a,*}, G. Pita da Veiga^b,
J.M. Suárez Peñaranda^c, M. Pousa Martínez^d

^a Servicio de Dermatología, Complejo Hospitalario Universitario de Santiago de Compostela, Santiago de Compostela, Spain

^b Servicio de Dermatología, Hospital Universitario Lucus Augusti, Lugo, Spain

^c Servicio de Anatomía Patológica, Complejo Hospitalario Universitario de Santiago de Compostela, Santiago de Compostela, Spain

^d Servicio de Dermatología, Complejo Hospitalario Universitario de Ourense, Ourense, Spain

* Corresponding author.

E-mail address: noeliama93@hotmail.com

(N. Moreiras Arias).