Necrobiosis Lipoidica in an Adolescent with Type 1 Diabetes Mellitus

Ivete Afonso[1], Andreia A. Martins[1], Inês Leite[2], Filipa Vasconcelos Espada[3]

Port J Pediatr 2019;50:126-7
DOI: https://doi.org/10.25754/pjp.2019.14127

A 7-year-old female adolescent was diagnosed with type 1 diabetes mellitus and was started on insulin therapy with poor metabolic control. At 16 years old, she developed two painful 3 cm nodules in the right pretibial region that were growing progressively. A computed tomography (CT) scan was performed to exclude bone lesions and showed subcutaneous edema. In six months, she developed bilateral, irregular, reddish-brown nodules (Fig. 1). The suspicion of necrobiosis lipoidica led to a skin biopsy, revealing granulomatous areas of necrobiosis in the dermis, surrounded by lymphohistiocytic infiltrates, shedding palisade, which confirmed the diagnosis.

She was started on tacrolimus 0.1% topical ointment twice daily with good results after eight weeks. After two years (three cycles), she has flat lesions, with no ulceration (Fig. 2).

Necrobiosis lipoidica is a rare chronic granulomatous disease with poorly understood etiopathogenesis.[1-5] It affects 0.3%-1.2% of diabetic patients, more commonly young and middle-aged women.[1,2,4,5] The significant relationship with diabetes mellitus places microangiopathy as the most consensual etiological hypothesis.[1]

Clinically, papules of varying dimensions develop, which slowly coalesce, progressing to plaques with a well-defined purpuric edge and yellow-brown atrophic and telangiectatic center.[1] The lesions are more frequent in the pretibial region, and are usually painless and bilateral.[1,4] In this case, there was doubt because of the presence of pain and unilateral involvement, thereby warranting the CT scan. The biopsy confirms the diagnosis and is helpful in excluding other diagnoses, namely erythema nodosum, panniculitis lupica, granuloma annularis, sarcoidosis, and amyloidosis.[3]

The main complications are ulceration and squamous cell carcinoma, which, although rare, can appear in non-ulcerated lesions.[1,2]

Treatment is challenging with no specific guidelines.[1-5] There are several options, from topical or intralesional corticosteroids, to topical tacrolimus or phototherapy, with inconsistent results.[5] Immunosuppressive therapy and anti-TNF-α agents are reserved for severe cases.[4]

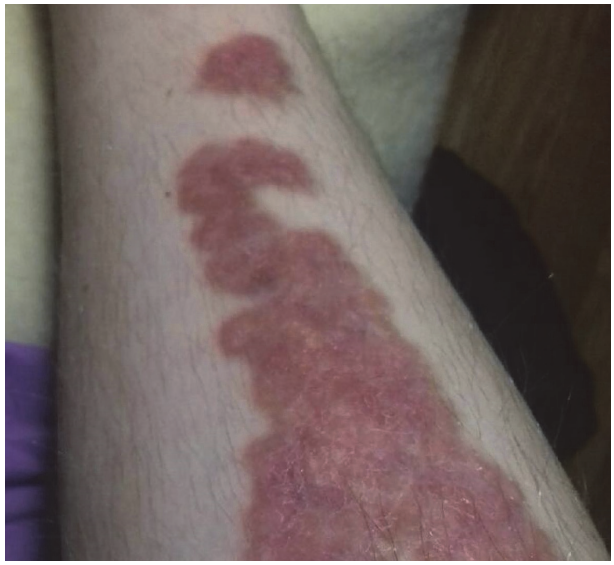

Figure 1. Lesions in the right pretibial region after six months.

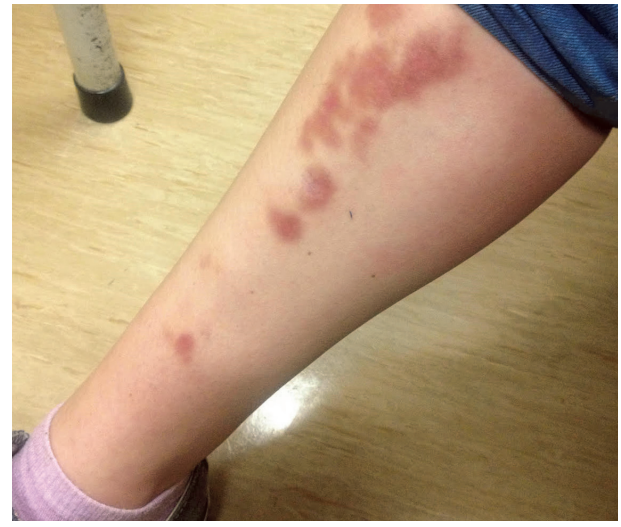

Figure 2. Lesions after two years of treatment with tacrolimus ointment.

1. Pediatrics Department, Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos, Matosinhos, Portugal
2. Dermatology Department, Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos, Matosinhos, Portugal
3. Pediatric Endocrinology Unit, Pediatrics Department, Hospital Pedro Hispano, Unidade Local de Saúde de Matosinhos, Matosinhos, Portugal
Corresponding Author
Ivete Afonso
ivete.afonso@hotmail.com.
Hospital Pedro Hispano, Rua Dr. Eduardo Torres, 4464-513 Senhora da Hora, Matosinhos, Portugal
Received: 31/03/2018 | Accepted: 22/10/2018

Tacrolimus was chosen due to our center experience. We highlight the importance of this disease recognition, proper treatment, and periodic surveillance that avoid complications.

Keywords: Adolescent; Child; Diabetes Mellitus, Type 1/complications; Necrobiosis Lipoidica/diagnosis; Necrobiosis Lipoidica/therapy

WHAT THIS REPORT ADDS

- Although rare, necrobiosis lipoidica may appear in those of pediatric age.
- Lesions can be painful in the beginning.
- The optimal treatment remains challenging.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

Funding Sources

There were no external funding sources for the realization of this paper.

Provenance and peer review

Not commissioned; externally peer reviewed

Consent for publication

Consent for publication was obtained.

Confidentiality of data

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

References

1. Reid SD, Ladizinski B, Lee K, Baibergenova A, Alavi A. Update on necrobiosis lipoidica: A review of etiology, diagnosis, and treatment options. J Am Acad Dermatol 2013;69:783-91. doi: 10.1016/j.jaad.2013.05.034.

2. Mitre V, Wang C, Hunt R. Necrobiosis lipoidica. J Pediatr 2016;179:272.e1. doi: 10.1016/j.jpeds.2016.08.080.

3. Sibbald C, Reid S, Alavi A. Necrobiosis lipoidica. Dermatol Clin 2015;33:343-60. doi: 10.1016/j.det.2015.03.003.

4. Ouleghzal H, El benaye J, Safi S. Necrobiosis lipoidica. Br J Med Health Res 2017;4:67-71.

5. Nascimento J, Machado S. Pediatric-onset necrobiosis lipoidica. Pediatr Int 2016;58:165-6. doi: 10.1111/ped.12872.