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Chondrodermatitis Nodularis Helicis: Successful Treatment with 2% Nitroglycerin Gel[☆]

Chondrodermatitis nodularis helicis tratada con éxito con nitroglicerina al 2% en gel

To the Editor:

Chondrodermatitis nodularis helicis (CNH) is a condition that affects the skin and cartilage of the pinna, manifesting as a single painful nodule on the helix, and less commonly the antihelix. The pathogenesis of CNH is unknown, but has been associated with decreased blood flow caused by prolonged pressure upon the auricular cartilage. Treatment is challenging, with recurrence being common following both conservative treatment and surgery.

We report the case of an 83-year-old woman who presented an erythematous nodule with central ulceration on the helix of the left ear; the nodule had appeared 2 years earlier, was extremely painful to touch, and had not responded to treatment with several courses of topical corticosteroids (Fig. 1). The results of a skin biopsy revealed hyperkeratosis, an acanthotic epidermis with signs of dysplasia, and numerous ectatic capillaries in the upper dermis.

In view of these findings, and after malignancy had been ruled out, the patient was diagnosed with CNH and the lesion was treated topically with a 2% nitroglycerin gel once every 12 hours for 3 months. An improvement was observed in the appearance of the lesion (Fig. 2) and the pain almost completely disappeared. Pain was assessed using a visual analog scale, with 10 corresponding to the worst pain imaginable and 0 to no pain; the patient's score decreased from 8 on the first visit to 1 following 3 months of treatment with nitroglycerin gel. Thus, 4 months after starting treatment (3 months of treatment and 1 of control), a significant improvement in the patient's condition was observed, with no adverse effects.

CNH is an inflammatory condition characterized by a solitary, firm, well-defined, pink or reddish nodule several millimeters in diameter on the helix or, less commonly, the antihelix, sometimes with central ulceration and crusting. Typically, the lesion is extremely painful to touch, a feature

that can facilitate differential diagnosis with other entities, such as actinic keratosis, squamous cell carcinoma, and basal cellular carcinoma.¹

Histologically, CNH is characterized by a hyperkeratotic stratum corneum with areas of parakeratosis, acanthosis, and in some cases the presence of an ulcer covered by a crust. In more advanced stages, degeneration of the dermis is accompanied by an increase in the number of blood vessels and the presence of perivascular inflammatory infiltrate.² Cartilage degeneration is also observed in biopsies that include cartilage (approximately 70% of all biopsies).¹

The pathogenesis of the condition is unknown. It is thought that repeated trauma or prolonged pressure, such as that which occurs during sleep at night, may lead to ischemia of the cartilage and the auricular perichondrium, structures that lack the protection of a thick layer of subcutaneous tissue.³ Once initiated, ischemia causes necrosis of the cartilage and consequent transepithelial elimination of the



Figure 1 Erythematous ulcer on the helix of the left ear consistent with chondrodermatitis nodularis helicis.

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Figure 2 Improvement in the clinical appearance of the lesion after 3 months of treatment with 2% nitroglycerin gel.

degenerated material.⁴ Accordingly, CNH is currently considered a perforating dermatosis.⁵

For this reason several recent reports have described the treatment of CNH treatment with topical nitroglycerin, which has known vasodilatory effects. Flynn et al. described a series of 12 CNH patients who were treated with 2% nitroglycerine gel once every 12 hours for 3 months, resulting in cure rates of up to 92%. Complete disappearance of the visible lesion and resolution of pain was observed in 61.5% of patients, while in 30.8% the pain was resolved but some degree of visible lesion persisted.²

Topical nitroglycerine acts to relax the arteriolar smooth muscle, reestablishing blood flow and reversing necrosis of the cartilage. The most common adverse effect of topical nitroglycerin for other indications is transient headache, which can affect up to 72% of patients, although in patients with CNH this adverse effect has only been observed in 17% of patients.²

Other conservative treatments for CNH include the administration of topical or intralesional corticosteroids,⁶ photodynamic therapy,⁷ and the use of pressure-relieving prostheses,^{4,8} with cure rates of 61% to 87%. Surgical techniques, such as cartilage resection with⁹ or without¹⁰

conservation of the skin, result in cure rates of up to 83%. However, in the majority of studies it is not specified whether successful treatment involves disappearance of the visible lesion or merely resolution of the pain, and follow-up periods vary greatly, complicating any comparison between different treatments.

In summary, we have presented a new case of CNH that was successfully treated with 2% nitroglycerin gel, a therapy that substantially improved the patient's pain. We consider this treatment to be a useful alternative to currently available therapies, with good tolerance and clinical results and no adverse effects.

References

1. Wagner G, Liefelth J, Sachse MM. Clinical appearance, differential diagnoses and therapeutical options of chondrodermatitis nodularis chronica helicis Winkler. *J Dtsch Dermatol Ges.* 2011;9:287-91.
2. Flynn V, Chisholm C, Grimwood R. Topical nitroglycerin: a promising treatment option for chondrodermatitis nodularis helicis. *J Am Acad Dermatol.* 2011;65:531-6.
3. Upile T, Patel NN, Jerjes W, Singh NU, Sandison A, Michaels L. Advances in the understanding of chondrodermatitis nodularis chronica helices: the perichondrial vasculitis theory. *Clin Otolaryngol.* 2009;34:147-50.
4. Moncrieff M, Sassoon EM. Effective treatment of chondrodermatitis nodularis chronica helicis using a conservative approach. *Br J Dermatol.* 2004;150:892-4.
5. Yoshinaga E, Enomoto U, Fujimoto N, Ohnishi Y, Tajima S, Ishibashi A. A case of chondrodermatitis nodularis chronica helicis with an autoantibody to denatured type II collagen. *Acta Derm Venereol.* 2001;81:137-8.
6. Cox NH, Denham PF. Intralesional triamcinolone for chondrodermatitis nodularis: a follow-up study of 60 patients. *Br J Dermatol.* 2002;146:712-3.
7. Gilaberte Y, Frias MP, Pérez-Lorenz JB. Chondrodermatitis nodularis helicis successfully treated with photodynamic therapy. *Arch Dermatol.* 2010;146:1080-2.
8. Kuen-Spiegl M, Ratzinger G, Sepp N, Fritsch P. Chondrodermatitis nodularis chronica helicis - a conservative therapeutic approach by decompression. *J Dtsch Dermatol Ges.* 2011;9:292-6.
9. Rajan N, Langtry JA. The punch and graft technique: a novel method of surgical treatment for chondrodermatitis nodularis helicis. *Br J Dermatol.* 2007;157:744-7.
10. Hudson-Peacock MJ, Cox NH, Lawrence CM. The long-term results of cartilage removal alone for the treatment of chondrodermatitis nodularis. *Br J Dermatol.* 1999;141:703-5.

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