Hidroacanthoma simplex: dermoscopy and cryosurgery treatment*

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Abstract: Hidroacanthoma simplex is a rare intraepidermal neoplasia that arises from the acrosyringial portion of the eccrine duct. Malignant transformation of hidroacanthoma simplex is reported in the literature and the treatment is performed with wide excision or Mohs micrographic surgery. We report the first case successfully treated with cryosurgery with a long-term follow up.
Keywords: Adenoma; Cryosurgery; Dermoscopy; Eccrine porocarcinoma; Poroma

INTRODUCTION

Hidroacanthoma simplex (HS) is a rare intraepidermal neoplasia that arises from the acrosyringial portion of the eccrine duct.[1] Lesions generally appear as a sharply demarcated brownish flat or verrucous plaque, which are often clinically misdiagnosed as seborrheic keratosis, Bowen's disease, or other adnexal tumors.[2] Histologically, it is characterized as discrete nests of basaloid cells confined to the epidermis. An acanthotic epidermis and occasional small ductal structures can also be observed.[1,3] Immunostaining with carcinoembryonic antigen, epithelial membrane antigen, and antikeratin antibodies seems to be not helpful in diagnosing HS.[3]

Malignant transformation of HS is reported in the literature and early wide local excision or Mohs micrographic surgery is suggested to avoid this rare, yet possible, complication.[3] We report a case of HS that had a complete resolution after a single session of cryosurgery.

CASE REPORT

A 69-year-old male patient with a brownish scaly plaque in his right pretibial region for 15 months (Figure 1). The scaly plaque had approximately 5cm in diameter. No other symptoms were reported.

Dermoscopy revealed some whitish globular structures surrounded by pigmented lines on the right side and dotty brown structures on the left side. We could observe some linear hairpin vessels on the left side as well (Figure 2).

Histology of the specimen showed nests of cuboidal basaloid cells and acanthotic epidermis. Some duct formations could also be observed. Immunostaining was positive for carcinoembryonic antigen and anti-epithelial membrane antigen within the glandular ducts (Figure 3).

Figure 1: Brownish scaly plaque in the right pretibial region

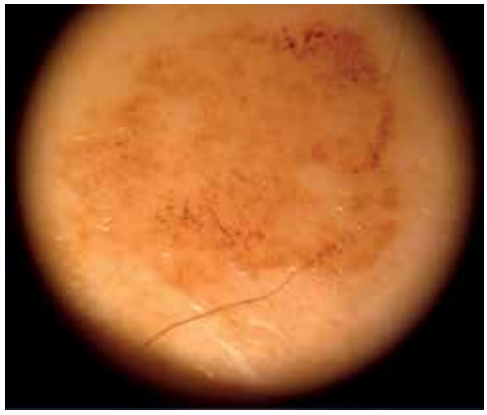

Figure 2: Dermoscopy shows whitish globular structures surrounded by pigmented lines on the right side and dotty brown structures on the left side. Some linear irregular hairpin vessels can be observed on the left side as well

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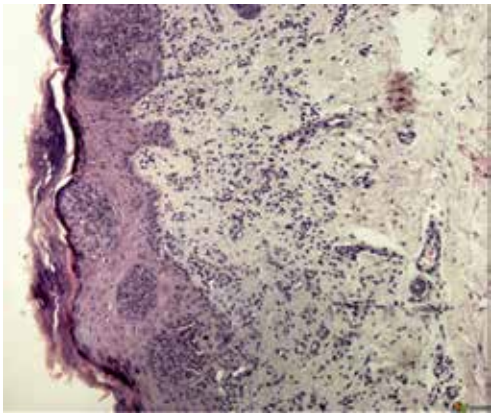

Figure 3: HE-stained histology specimen showing nests of cuboidal basaloid cells and an acanthotic epidermis

Figure 4: Residual scaly surface in the center of the lesion 2 months after cryosurgery

Cryosurgery was choosed based on histological and dermoscopic favorable features. We used cryospray in a single session of 15 seconds in three applications with a 5-second interval in between (skin frosting recovery). After 2 months, we observed a residual scaly surface in the center and an erythematous scarring tissue, with lesion resolution (Figure 4). The patient was followed regularly at the dermatology clinic. We observed no relapse after a 7-year follow-up.

DISCUSSION

HS is recognized as an intraepidermal eccrine poroma. An electron microscope study found that tumor cells are identical to the outer layer of the intraepidermal eccrine duct.[1]

Histologically, HS may be confused with the clonal variant of seborrheic keratosis (CSK), basal cell epithelioma (BCE), or Bowen's disease. Based on cytological and architectural features, BCE and Bowen's disease could be easily differentiated from HS. However, histopathologic changes of CSK could resemble HS. Immunostaining with carcinoembryonic antigen, epithelial membrane antigen, and antikeratin antibodies can be helpful in diagnosing HS.[3] Liu et al.1 conducted a study to determine cytokeratin expression (CK) as well as glycogen and melanin deposition in HS and CSK. HS can be differentiated from CSK by very low density of Langerhans cells and by much fewer melanin granules in the nests. Both HS and CSK show very similar patterns of cytokeratin expressions. Kurokawa et al.4 reported that CK expression in HS has a different immunophenotype from that in acrosyringial cells. The presence of CK17 in HS implies that the tumor cells are in a hyperproliferative state, and the presence of CK14 reflects the undifferentiated character of the tumor cells. Another study showed the presence of CK14 and 17 in eccrine poroma, suggesting that CK expression in eccrine poroma is similar to that in HS. However, CK1, 10, and 19, which were absent in HS, were found in the ductal structure in eccrine poroma.[4]

Malignant variants of HS are rare and have been reported under different names, such as malignant HS, in situ porocarcinoma, eccrine porocarcinoma, and HS with invasive growth.[5-7] Most cases developed from pre-existing long-term HS. Local excision or Mohs micrographic surgery are suggested to avoid this possible progression. Cryotherapy is one of the main treatment techniques in dermatology. It consists in spraying nitrogen directly over lesions with a cryospray, catheter or with the help of a swab. When liquid nitrogen comes in contact with the skin through spray or catheter, the temperature of the area reaches -196° C. Freezing of skin may reach a depth of 10 millimeters, depending on duration and distance of application. Due to quick freezing, there is cell death and tissue necrosis.[8] Collagen fibers and cartilages are resistant to freezing. Some authors claim that cryotherapy must be used from 5 to 10 seconds over and around each lesion, with longer times for thicker lesions.[9]

Dermoscopy is a valuable, noninvasive, widely used technique. In the present case, HS dermoscopy revealed characteristic features, namely whitish globular structures surrounded by homogenous, pigmented lines, and globular structures covered with gatherings of the thick, oval keratotic materials, referred to as "muskmelon appearance".[10] In a recent report, dermoscopy of an eccrine porocarcinoma (EPC) arising from a HS revealed vessels in a conspicuous and irregular shape.[11] The differences on dermoscopy could be a helpful clue for the tumor grade.

HS is a rare tumor that arises from the acrosynrial portion of the eccrine duct. Malignant transformation is described and the lesion should be treated. Cryosurgery was described as an effective alternative treatment and should be considered in cases with no signs of malignancy. ❑

REFERENCES

1. Liu HN, Chang YT, Chen CC. Differentiation of hidroacanthoma simplex from clonal seborrheic keratosis--an immunohistochemical study. Am J Dermatopathol. 2004;26:188-93.
2. Rahbari H. Hidroacanthoma simplex--a review of 15 cases. Br J Dermatol. 1983;109:219-25.
3. Anzai S, Arakawa S, Fujiwara S, Yokoyama S. Hidroacanthoma simplex: a case report and analysis of 70 japanese cases. Dermatology. 2005;210:363-5.
4. Kurokawa I, Nishijima S, Kusumoto K, Senzaki H, Shikata N, Tsubura A. A case report of hidroacanthoma simplex with an immunohistochemical study of cytokeratins. Int J Dermatol. 2005;44:775-6.
5. Lee JB, Oh CK, Jang HS, Kim MB, Jang BS, Kwon KS. A case of porocarcinoma from pre-existing hidroacanthoma simplex: need of early excision for hidroacanthoma simplex? Dermatol Surg. 2003;29:772-4.
6. Lee WJ, Seo YJ, Yoon JS, Suhr KB, Lee JH, Park JK, et al. Malignant hidroacanthoma simplex: a case report. J Dermatol. 2000;27:52-5.
7. Ueo T, Kashima K, Daa T, Kondoh Y, Yanagi T, Yokoyama S. Porocarcinoma arising in pigmented hidroacanthoma simplex. Am J Dermatopathol. 2005;27:500-3.
8. Oliveira MC, Trevisan F, Pinto CA, Xavier CA, Pinto JC. Histopathological analysis of the therapeutic response to cryotherapy with liquid nitrogen in patients with multiple actinic keratosis. An Bras Dermatol. 2015;90:384-9.
9. Samain A, Boullié MC, Duval-Modeste AB, Joly P. Cryosurgery and curettage-cryosurgery for basal cell carcinomas of the mid-face. J Eur Acad Dermatol Venereol. 2015;29:1291-6.
10. Sato Y, Fujimura T, Tamabuchi E, Haga T, Aiba S. Dermoscopy findings of hidroacanthoma simplex. Case Rep Dermatol. 2014;6:154-8.
11. Suzaki R, Shioda T, Konohana I, Ishizaki S, Sawada M, Tanaka M. Dermoscopic features of eccrine porocarcinoma arising from hidroacanthoma simplex. Dermatol Res Pract. 2010;2010:192371.

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