

# Blue scales on an “iced” scalp

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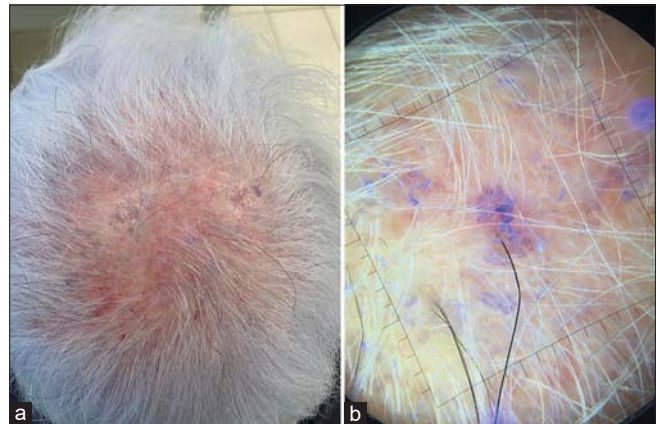
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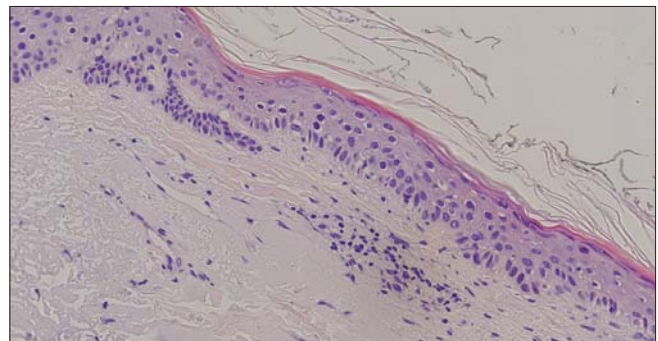
Although the diagnosis of actinic keratosis (AK) is mainly clinical, dermoscopy is a highly useful and accurate diagnostic technique. The dermoscopic features of AK include the strawberry pattern with white areas, keratotic, follicular openings, a pseudonetwork, and rosettes [1].

An 82-year-old male with a personal history of type 3 autoimmune polyglandular syndrome and hypertension was referred to the dermatology department due to the presence of scaly lesions located on the scalp and forehead. A physical examination revealed asymptomatic, keratotic lesions on the forehead and in the occipital region (Fig. 1a). The patient denied the application of any product except toning shampoo for white hair. Interestingly, the lesions had a blue, superficial scale, although they clinically resembled AK. Dermoscopy evidenced an erythematous background with multiple, arctic-blue, keratotic plugs (Fig. 1b). Moreover, a superficial excision of one of the lesions was performed, evidencing solar elastosis and a chronic dermal infiltrate, as well as basal keratinocytes with loss of polarity, presenting with irregular nuclei (Fig. 2). Thus, the clinical and pathological correlation confirmed the diagnosis of AK. The lesions were treated with cryotherapy leading to their resolution.

Blue AK has been termed AK neglecta while the dermoscopic blue coloration the iceberg sign [2,3]. The latter is described to be caused both by sunscreens containing titanium dioxide [3] or shampoos containing Acid Violet (present in the shampoo that the patient used) [2]. Moreover, this exogenous pigmentation may easily be removed with alcohol [3]. Histologically, a basophilic amorphous material on the stratum corneum is described to be present [2]. A lack of this finding in our case might have been explained due to



**Figure 1:** (a) Clinical presentation of the cutaneous lesions: numerous bluish-gray, scaly lesions in the occipital area; the patient confirmed using toning shampoo for white hair containing Acid Violet 43. (b) Dermoscopy of one of the lesions: an erythematous background, as well as numerous arctic-blue, keratotic plugs; the blue scale compatible with the iceberg sign present in AK neglecta.



**Figure 2:** Solar elastosis and a chronic dermal infiltrate, as well as basal keratinocytes with loss of polarity presenting with irregular nuclei; findings compatible with the clinical suspicion of AK; no basophilic amorphous material present in the stratum corneum (H&E, 20x).

the 10% formol used to preserve the biopsy, eliminating the pigment. Recognizing this presentation is essential due to the widespread use of toning shampoos and sunscreens among the elder population.

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## Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki. The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

## REFERENCES

1. Reinchr CPH, Bakos RM. Actinic keratoses: Review of clinical, dermoscopic, and therapeutic aspects. 2019;94:

637-57.

2. Mir-Bonafé JF, Mir-Bonafé M, Mozos A, López-Sánchez C, Piquero-Casals J, de Dios-Velázquez Á, et al. Iceberg sign in actinic keratosis neglecta caused by toning shampoo for blonde and white hair. *Int J Dermatol.* 2020;59:e64-5.
3. Mir-Bonafé JF, Rozas-Muñoz E, Dalmau J, Mir-Bonafé M, Iznardo H, García-Melendo C, et al. Iceberg sign as a dermoscopic clue of actinic keratosis neglecta. *J Eur Acad Dermatol Venereol.* 2019;33:e254-6.

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