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Blowing Bubbles: Dermoscopy of Bubble Hair

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ABSTRACT

Exposing wet hair to high temperatures can create gas bubbles within the hair shaft, leading to brittle, dry hairs in a disorder known as bubble hair abnormality. We present a case of a 61-year-old woman who presented for hair breakage over her crown. She regularly dried her damp hair with a blow dryer. Dermoscopy revealed multiple bubbles within the hair shaft, and diagnosis of bubble hair abnormality was confirmed by light microscopy. Our unusual case highlights the ease of acquisition of this abnormality by means of a common hair dryer, and the utility of dermoscopy to make a fast and accurate diagnosis within the office.

Key words: Bubble hair, dermoscopy, hair styling, heat damage, trichogram

INTRODUCTION

Bubble hair is an acquired hair shaft abnormality due to gas bubbles that develop in wet hairs following exposure to heat. The development of bubbles in the hair shaft results in dry, brittle hairs that break easily. We report an interesting case of this unusual abnormality and highlight the utility of dermoscopy for diagnosis.

CASE REPORT

A 61-year-old Caucasian female with no personal or family history of alopecia presented with a chief complaint of dry scalp and hair breakage for 2 months. She had been using a color and shine enhancing shampoo recently and regularly used a blow dryer, but denied other heat styling practices. The patient had not experienced any symptoms of pruritus or pain. Physical examination revealed a focal patch of short, broken hairs localized to her crown. There was no erythema, scale, or other scalp abnormalities, and there was no other area of hair loss on her scalp or body.

Using dermoscopy, hair shafts clearly displayed irregularly spaced bubbles [Figure 1]. Light microscopy examination of the trichogram revealed that the mid and distal portion of many hairs contained irregularly spaced bubbles which expanded and thinned the cortex [Figure 2]. Diagnosis of bubble hair abnormality due to heat exposure from a blow dryer was made. The patient was advised to discontinue all heat-related practices. At follow-up 7 months later, the patient reported complete resolution of her symptoms with no continued hair breakage and no noticeable areas of thinning.

DISCUSSION

Bubble hair can develop when wet hairs are exposed to just 125°C, a functional temperature of many hair styling appliances,[1] and resolves with discontinuation of heat styling. Previous reports have noted the usefulness of dermoscopic analysis of bubble hair, with results ranging from “white oval spaces with Swiss-cheese structure”[2] to “dysmorphia of the...
distal hair shaft,” yet suggest that light microscopy may offer a clearer image and definitive diagnosis. While a trichogram examined under light microscopy can be used to make the diagnosis, our case demonstrates that dermoscopy is a fast and accurate in-office diagnostic tool for bubble hair abnormality.

**CONCLUSION**

We recommend that practitioners have a low level of suspicion for bubble hair abnormality and consider the diagnosis in any case of hair breakage with a possibility of thermal injury. We highlight the utility of using dermoscopy to accurately diagnose this disorder and demonstrate that this technique can reveal bubbles within the distal hair shaft similar to those seen on light microscopy of the trichogram.

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There are no conflicts of interest.

**REFERENCES**
