

What Is Your Diagnosis?



A 38-year-old white woman presented with a concern of a localized patch of unruly and short hair of 6 months' duration. The left vertex region of her scalp had a 3-cm area of broken hair that was wiry in texture. A hair mount was performed. The hair showed multiple translucent bubbles at the center of the shaft.

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The author reports no conflict of interest.

The Diagnosis: Bubble Hair



In 1986, Brown et al¹ first described an unusual hair shaft abnormality and coined it *bubble hair*. The patient had a localized area of broken hairs on the scalp. Light microscopy of the hair shaft showed the unusual bubbles. Gentle hair care eventually led to resolution of the problem.¹

Subsequent reports expanded on the microscopic description and suggested that the bubbles in the hair can distort or distend the hair, causing a boomerang deformity. Scanning electron microscopy showed large central and Swiss cheese–like cavities.² It was not until 1994 that the specific cause of bubble hair was determined.^{3,4} In the fourth reported case of bubble hair, the culprit was determined to be overheating of the blow-dryer at 149°C due to improper air intake.³ Bubble hair was reproduced in the patient, 16 healthy adults, and dog and cat hair, suggesting no underlying or inherent hair defect necessary for bubble formation. The bubbles contained a gas, suggesting that the cavitations develop as moisture or gas in the hair expands.³ A temperature threshold of 175°C to 215°C for 5 minutes was sufficient to cause bubbles³; however, this temperature threshold could be substantially lower if the heat is applied to damp hair.⁴

Bubble hair is likely an underreported hair shaft disorder. Given the mechanism of formation, a

large segment of the population may be at risk for development of this abnormality. Dermatologists who are aware of bubble hair can easily diagnose and properly advise their patients to eliminate the source of the problem, thus allowing for restoration of healthy hair. Prior to counseling patients with acquired hair shaft disorders caused by hairstyling, a trip to the microscope to have the patient view the hair can be of great value, which allows the patient to visualize the cause of the hair problem and frequently makes the patient a more receptive partner in a treatment recommendation that may involve altering long-term hair care routines.

REFERENCES

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