Case of the Month April 2026

An 11-year-old, spayed female, Dachshund with a blue hair coat color presented with widespread, patchy alopecia. The patient began developing partial alopecia ten years prior on the dorsum. Three years later, the alopecia affected the trunk, and the dorsal back was almost bald. There was no pruritus, pustules, or erythema. After an additional three years, the patient developed seborrhea sicca and erythema. Cytopoint therapy was initiated at that time. The alopecia slowly progressed to the entire body. CBC/chemistry were normal. On presentation, there was partial alopecia with mild, flaky skin and hyperpigmentation, especially on the dorsal skin, as well as numerous small (1-2 mm), raised, black comedones.

Figure 1.

Figure 2.

Figure 3.

Figure 4. H&E, 2x magnification.

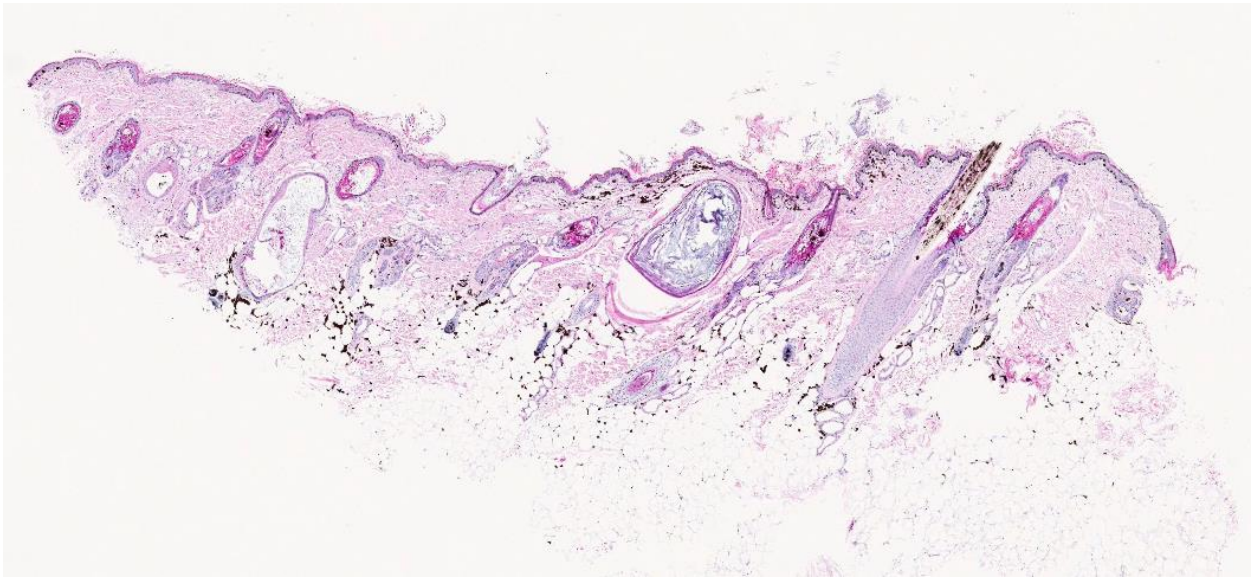


Figure 5. H&E, 10x & 20x magnification.

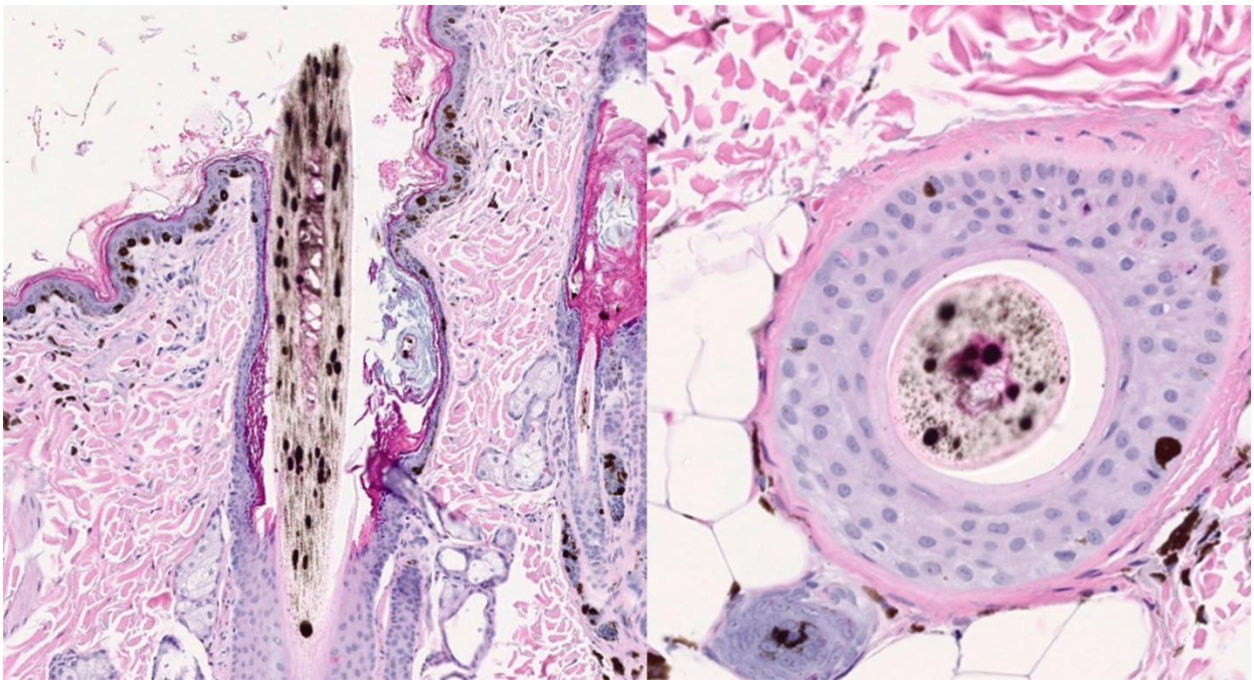


Figure 6. H&E, 10x magnification.

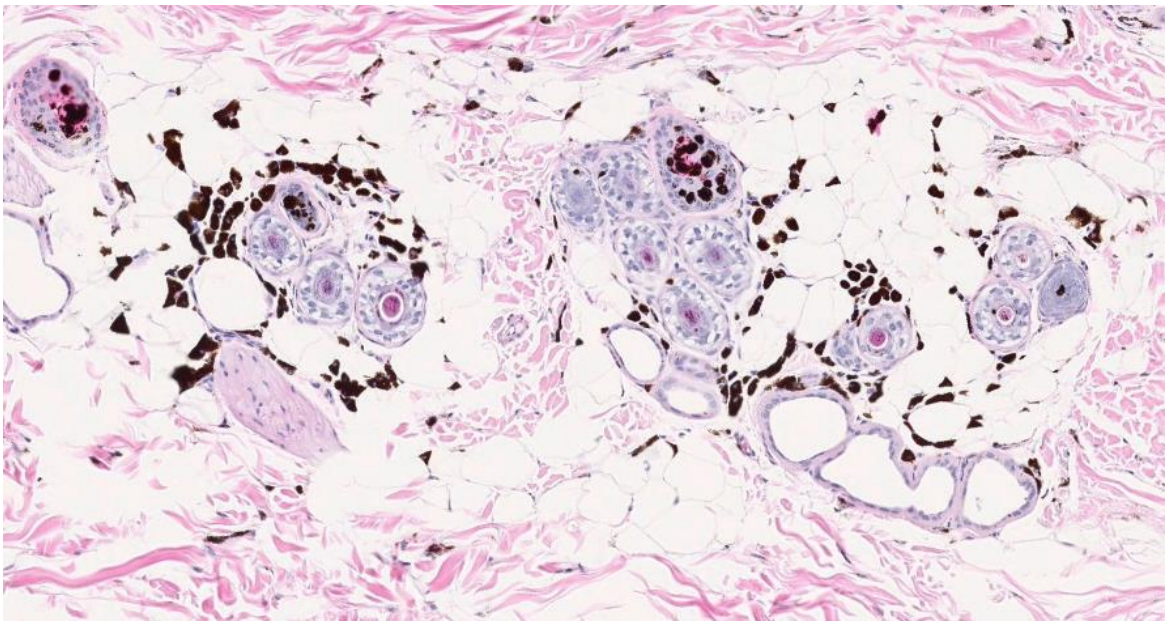
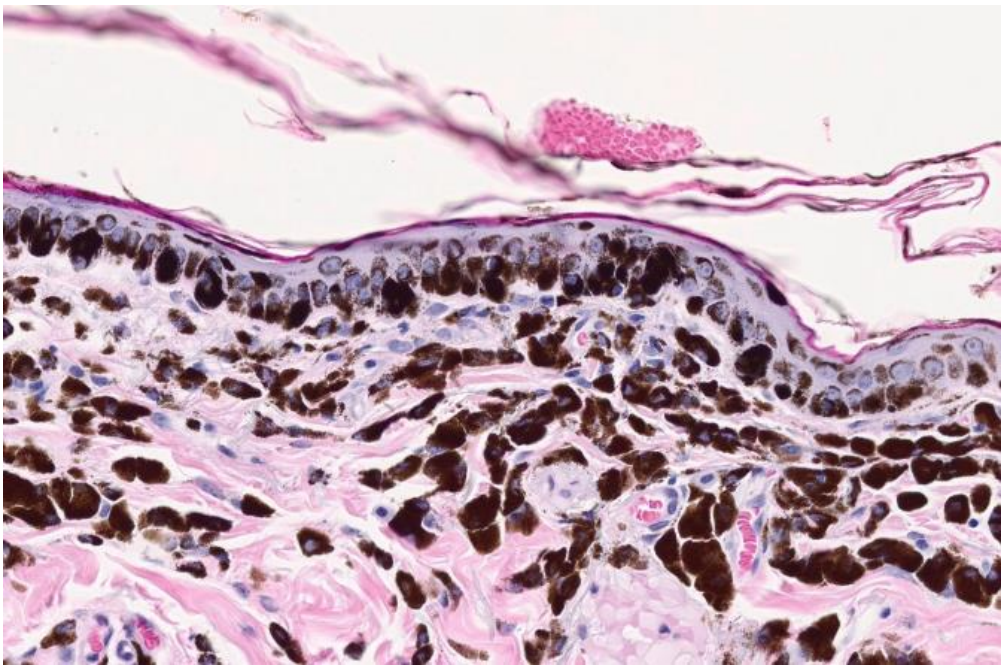


Figure 7. H&E, 20x magnification.



Which of the following is the most appropriate diagnosis?

A. Uveodermatologic syndrome
B. Hyperadrenocorticism
C. Color dilution alopecia
D. Phaeohyphomycosis

Histopathologic description

Frequently, hair follicle infundibula have an irregular contour with outpouching of keratin into the secondary hair follicles at the base of the follicle (follicular dysplasia). In many hair shafts (both anagen and telogen), hair follicle walls, and in hair bulbs, there are clumps of melanin. Clumps of melanin are also present throughout the epidermis throughout the basal cell layer. Surrounding hair follicles and multifocally to diffusely infiltrating the superficial dermis are numerous macrophages containing melanin granules (pigmentary incontinence). The epidermis is of normal thickness, and the surface is covered by mild basketweave orthokeratotic hyperkeratosis. Hair follicle infundibula are multifocally, moderately to markedly dilated and filled with keratin (follicular keratosis, comedones). Hair follicles are multifocally, mildly to moderately atrophic and predominantly in telogen, though anagen follicles are observed in both biopsies.

Morphologic diagnosis

Moderate, diffuse, chronic, hair follicle dysplasia with melanin clumping (hair shafts, hair follicle walls, and perifollicularly) and pigmentary incontinence.

Comments

Color dilution is a form of canine follicular dysplasia which may be observed in any breed with a dilute hair coat color, most commonly “blue” Doberman pinschers, “silver” Labrador retrievers, “fawn” Irish Setters, Dachshunds, Weimaraners, and Yorkshire Terriers. In dogs, coat color dilution is caused by defective transfer of melanosomes to the matrix cells of the hair bulb, resulting in a variety of coat color varieties, including blue, gray, or fawn. Currently, three variants in the *melanophilin* gene (*MLPH*) have been characterized as causes of a dilute coat color in dogs. However, not all dogs with a dilute coat develop color dilution alopecia. The factors which result in some dilute-colored dogs developing this type of follicular dysplasia are currently unknown but are suspected to be hereditary.

Clinically, affected dogs exhibit alopecia primarily on the trunk. There is typically a graduate onset of a dry, dull, brittle coat progressing to partial, patchy alopecia that finally proceeds to more complete hair loss. The skin typically becomes dry and scaly with possible comedone

formation. Most dogs begin developing clinical signs between 4 months and 3 years of age. The dog of this report was approximately 1-year-old when lesions began. The fragility of the dysplastic hair follicles frequently results in secondary infections. It has been hypothesized that the large melanin clumps within the hair shaft damage the cuticle and result in fracture of the hair shaft, ultimately resulting in alopecia.

The defective melanosome transfer responsible for coat color dilution causes large aggregates of melanosomes to form, visible histologically as large clumps of melanin pigment in the hair shaft, follicular lumen, outer root sheath, and basal cell layer of the epidermis. With hair follicle dysplasia, hair follicles may be misshapen (dysplastic) in addition to the prominent melanin clumping within hair follicles and hair shafts. Pigmentary incontinence is observed around hair follicles and in the superficial dermis. Hair follicle infundibula are frequently distended by keratin. Chronically, follicular atrophy may develop. As color dilute dogs with or without alopecia will exhibit melanin clumping, presence of dysplastic changes to the hair follicles and, ideally, clinical information indicating alopecia, are required for the diagnosis. Additional histologic clues include fractured hair shafts and abundant free melanin pigment.

Histologically, color dilution alopecia is indistinguishable from black hair follicle dysplasia, though the distinction can readily be made clinically. Black hair follicle dysplasia affects bi- or tricolored dogs and results in alopecia only in black haired areas. This form of follicular dysplasia is inherited as an autosomal recessive trait.

References

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