Canine Endocrine-Like Hair Loss Pattern

**ACTH** = adrenocorticotropic hormone

**Pruritus**
- Broken, stubby hairs
- Excoriations
- History of pruritus
- Salivary staining

**Pursue pruritus workup**
- **Diagnostic tests**
  - Repeat skin scrapings
  - Skin cytology
  - Nail bed cytology
  - Fungal culture
  - Skin cytology
  - Repeat skin scrapings

**No obvious skin lesions**
- **Laboratory diagnostics**
  - Complete blood count
  - Uric acid
  - Thyroid panel
  - Low dose dexamethasone test
  - ACTH stimulation test
  - Adrenal sex hormone testing

**No diagnosis**
- **Skin biopsy**
  - No response to combined antibiotic/antifungal therapy
  - Negative fungal culture
  - Negative repeat skin scrapings
  - No response to combined antibiotic/antifungal therapy

**Diagnosis**
- **Skin biopsy**
  - No diagnosis
  - Tests normal

**ENDOCRINE-LIKE HAIR LOSS PATTERN IN OTHERWISE HEALTHY DOG**

**Hair follicle dystrophy or dysplasia**
- Consider
  - Congential hypothyroidism
  - Color dilution alopecia
  - Black hair follicular dysplasia
  - Canine follicular dysplasia
  - Cyclic flank alopecia

**Pattern baldness**
- **KEY FINDINGS**: normal dermis and epidermis, moderate to severe diminution of hair follicles; **NOT SEEN**: arrest of hair cycle, distorted hairs follicles

**Alopecia X**
- **KEY FINDINGS**: epidermal hyperpigmentation, hair follicles in arrest, predominant telogen hairs, prominent tricholemmal keratin in telogen follicles (**“flame figures”**)

**Pattern baldness**
- **Breed predilection**
  - Dachshund
  - Boston terrier
  - Chihuahua
  - Whippet
  - Italian Greyhound

**Alopecia X**
- **Notes**
  - A noninflammatory endocrine-like pattern of hair loss
  - Other names for this disease include, but are not limited to: adrenal sex hormone imbalance, hypothyroidism, growth hormone-responsive alopecia, and “pseudo Cushing’s disease.” It is unknown whether there are one or multiple etiologies.
  - Alopecia X is most commonly seen in young dogs between 2 and 5 years of age but has been seen in dogs from 1 to 10 years of age.
  - There is a strong breed predilection. Alopecia X is most common in miniature poodles, chow chows, Pomeranians, keeshonds, and Samoyeds.
  - There are no systemic signs of illness.
  - The pattern of hair loss typically spares the head and limbs and begins with loss of primary hairs and progresses to bilaterally symmetrical alopecia.

**Guide to Cautions**
- 1. If a dog is showing signs of systemic illness, diagnosis of that illness should be pursued first.
- 2. Pruritic diseases, particularly ectoparasite infestation and allergic skin diseases, are the most common causes of hair loss in dogs. Pruritus "trumps" hair loss in dermatologic workups. In other words, if the dog is pruritic, resolve the pruritus before pursuing expensive blood testing, endocrine testing, and skin biopsies.
- 3. Demodicosis can mimic almost any skin disease. It is a follicular disease and no matter how unlikely, it should be ruled out as a cause or complication.
- 4. Even if no skin lesions are present, it is prudent to repeat skin scrapings, make sure a fungal culture is negative, and that hair loss does not respond to a 2 to 10 day course of antifungal therapy. Diseases that are typically inflammatory and pruritic can present with little or no inflammation. The recommended tests mentioned are relatively inexpensive compared to the workup that follows.
- 5. The utility of this test is questionable and widely debated. The author feels that the client’s money is best spent solidly ruling out medical causes of the hair loss especially hypothyroidism and hypoadrenocorticism.

**Alopecia X Notes**
- Alopecia X is a diagnosis of exclusion.
- Secondary seborrhea, bacteria, and yeast can be complications and some dogs may present initially with pruritus.
- Alopecia X is a diagnosis of exclusion.
- Hair regrowth at biopsy site often occurs and may be a clinical clue.
- This is a cosmetic disease. Treatment is not necessary but the dog must be protected from sunburn and damage to the skin.

**Investigation**
- 1. If a dog is showing signs of systemic illness, diagnosis of that illness should be pursued first.

**Diagnosis**
- **skin scrapings**
  - **Obvious skin lesions**
    - papules, pustules, crusts, scales, nodules, excoriations

**Caution!**