6 year old castrated male Greater Swiss Mountain dog. Presented for ulceration between the nares (Figure 1).

Which of the following is the best diagnosis?

a. Squamous cell carcinoma
b. Rhinosporidiosis
c. Discoid lupus erythematosus
d. Proliferative arteritis of the nasal philtrum
e. Pemphigus vulgaris

Signalment: 6 year old castrated male Greater Swiss Mountain dog.

History: Presented for ulceration of the nasal philtrum. This lesion spontaneously spurted blood 6 months after it was first noticed.

Microscopic Description:
Non-haired skin, nasal philtrum (3 sections): Diffusely there is mild to moderate epidermal hyperplasia with a few small focal ulcerations (Figure 2). Ulcerated areas are infiltrated and replaced by fibrin and cellular debris. Adjacent areas are mildly eroded and infiltrated with fibrin and small numbers of degenerate neutrophils and fibrin. Over the surface there is orthokeratotic to parakeratotic hyperkeratosis and spongiosis, exocytosis adjacent to ulcerated areas. In the superficial dermis there is a moderate lymphoplasmacytic lichenoid band that is infiltrated with a small number of neutrophils and melanomacrophages (Figure 3, 4). The dermal arteries and arterioles have segmental to diffuse mural thickening with prominent subintimal deposits of fibrillary pale basophilic material (Figure 5). Some arterioles have thickening of the vessel walls due to smooth muscle proliferation, whereas a few smaller arterioles feature scant accumulation of mucinous matrix in the tunica media. Segmental to diffuse subintimal proliferation of spindle cells with moderate amounts of extracellular matrix thicken the artery walls and fragment the internal elastic membrane of multiple elastic arteries (Figure 6). Deeper vessels are occasionally surrounded by dense aggregates of lymphocytes.

Morphologic Diagnosis:
Non-haired skin, nasal philtrum: Severe arteropathy with vessel wall hypertrophy, subintimal proliferation and multifocal fragmentation of the internal elastic membrane with moderate lymphoplasmacytic lichenoid dermatitis, pigmentary incontinence and multifocal ulcerations
**Name the condition:** Proliferative arteritis of the nasal philtrum (aka dermal arteritis of the nasal philtrum)

**Comment:**
Proliferative arteritis of the nasal philtrum, also known as dermal arteritis of the nasal philtrum, is a rare condition in dogs of unknown etiology. The condition is characterized by a well-circumscribed deep round to linear to V shaped ulcer in the nasal philtrum. Clinically, affected dogs can have recurrent episodes of bleeding, sometimes necessitating emergency intervention. Proliferative arteritis of the nasal philtrum has not been reported in the Greater Swiss Mountain dog but the disease does tend to affect large and giant breeds of dog. This condition was first reported in Saint Bernard dogs and a genetic mode of inheritance had been suggested in this breed because it is overrepresented in cases reported. The condition has also been reported in the giant schnauzer, bassett hound, Newfoundland, Samoyed, German shorthair pointer, and Brazilian Mastiff. Affected dogs range in age from 1 to 9 years with larger numbers of male dogs reported than females.

The proposed pathogenesis of the condition involves inflammation of the arteries and arterioles of the nasal philtrum leading to proliferation of vimentin and smooth muscle actin positive spindle cells, as well as deposition of extracellular matrix leading to thickening of the vascular subintima. Vascular remodeling leads to luminal stenosis and local ischemia with necrosis and ulceration of the overlying skin.

Current treatment recommendations are oral or topical immunomodulatory and immunosuppressant medications. For those that do not respond to medical management, deep resection of the philtrum with ligation of feeding arteries has been reported to be successful.

**References:**


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Figures

Figure 1.

Figure 2.
Figure 3.

Figure 4.