



Latin Comparative Pathology Group

The Latin Subdivision of the CL Davis Foundation

Diagnostic Exercise

Case #: 38 Month: November Year: 2013

Answer Sheet

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Clinical History: A 6 year-old, male non castrated Saint Bernard dog was received for clinical examination, with the complain of spontaneous and continuous bleeding of the nostrils. The clinical history outlined the presence of a nasal lesion when this patient was young, without any diagnostic workout. Clinical examination revealed that bleeding proceeded from the nasal planum, specifically at the base of the nasal phyltrum. In this area, a linear, non pigmented, ulcerative lesion was present, which conferred a wound similar to a traumatic type of lesion. All the other parameters at the physical examination were unremarkable. A biopsy was obtained from the affected area.

Microscopic images:

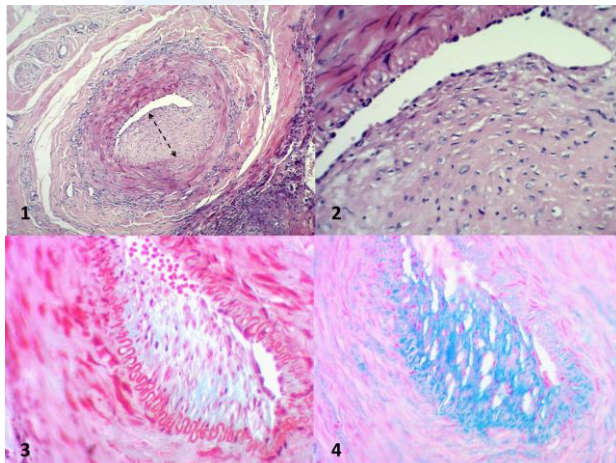


Figure 1: Blood vessel, skin from ulcerative lesion. H&E, 10 X. **Figure 2:** Blood vessel, skin from ulcerative lesion. H&E, 40X. **Figure 3:** Blood vessel, skin from ulcerative lesion. Masson Trichrome, 40X. **Figure 4:** Blood vessel, skin from ulcerative lesion. Alcian Blue pH 2,5. 40X.

Follow-up questions: 1. Microscopic Description, 2. Morphologic diagnosis, 3. Immunohistochemical findings. 4.

Name the disease.

Answers:

1. Microscopic description: Adjacent to a skin ulcerative lesion, numerous arteries have proliferation of spindle cells in the subintima of blood vessels, embedded in a fine eosinophilic extracellular matrix. This proliferation partially or totally occludes the vascular lumen.
2. Morphologic diagnosis: Proliferative arteriopathy, multifocal, subintimal, with ulcerative dermatitis.
3. IHC findings: Spindle cells are Vim (+) and smooth muscle actin (+)
4. Name the disease: Proliferative arteriopathy of the nasal phyltrum of Saint Bernard dog.

Typical Gross findings: Linear ulcerative lesion of the nasal phyltrum.

Typical microscopic findings:

- Multifocal subintimal proliferation of smooth muscle cells.
- Minimal inflammation
- Ulcerative dermatitis

Discussion:

There are several disorders that can affect the nasal plane of dogs, including immune mediated diseases, such as pemphigus vulgaris and discoid lupus erythematosus; neoplastic diseases, such as epitheliotropic lymphoma; infectious diseases, particularly Leishmaniasis; contact hypersensitivity; and certain idiopathic conditions. However none of these disorders is known to exclusively affect the nasal phyltrum. Proliferative arteritis of the nasal phyltrum is an uncommon and distinctive vascular disease, and is the only entity reported to selectively affect this particular anatomic position. This disease has been described more frequently in the Saint Bernard breed, which initially led to the suggestion that this condition could be inherited. Nevertheless, it has been also reported in adult giant Schnauzers, a Basset hound and a Newfoundland, suggesting that other factors could be involved in the pathogenesis. The onset of clinical signs is typically between three and six years of age, and is characterized by the presence of solitary ulcers of the nasal phyltrum. Lesions are usually neither pruritic nor painful, and affected animals

are generally otherwise healthy. This entity occurs with episodes of arterial bleeding, which can lead to anemia. It has been postulated that the primary lesion is inflammation of arteries and arterioles of the nasal phyltrum, leading to proliferation of spindle cells and the deposition of extracellular matrix, with thickening of the vascular subintima. With time, there is hypoperfusion due to partial occlusion, causing local ischemia, necrosis and ulceration of the overlying skin. The vasculopathy may also cause weakness of the vascular walls with subsequent rupture.

Although it is a rare disease, the diagnosis is relatively easy because of the specific location, racial bias and typical histopathologic lesions. Induction therapy with prednisone followed by local application of cyclosporine ointment demonstrated to be an effective solution to prevent the onset of short-term injuries.

References and Recommended literature:

Torres SM, Brien TO, Scott DW. Dermal arteritis of the nasal phyltrum in a Giant Schnauzer and three Saint Bernard dogs. *Vet Dermatol* (2002) 13:275-281.

Gross TL, Ihrke PJ, Walder MJ, Affolter VK. Chapter 10: Vascular diseases of the dermis. In: *Skin diseases of the dog and cat: Clinical, Histopathologic Diagnosis*. 2nd ed. Blackwell, Ames IA. 2005. 238-260.

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A final document containing this material with answers and a brief discussion will be posted on the C. L. Davis website by the end of the current month (http://www.cldavis.org/lcpg_english.html).