"Nose-itis"

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Diseases that affect the nose include more than discoid lupus or squamous cell carcinoma. This lecture will show many photographs of nose disorders to teach the practitioner some of the subtleties to consider when presented with a patient with nasal disease.

Some of the key features to evaluate include assessment of the planum architecture (cobblestones), pigmentation changes, symmetry, and are other sites of the body affected. Foot pads should always be assessed if the planum nasale is abnormal. Are the changes of the nose consistent with an ulcerative process or perhaps an infiltrative process where "something" is occupying space? Are the lesions crusty? What type of crust is present (serous vs. hemorrhagic)? Is hyperkeratosis present? Are fissures present?

Causes of Nasal Dermatitis: Almost anything that can cause skin disease!

Infection, neoplasia, keratinization disorders, immune-mediated diseases and metabolic dermatopathies all will potentially affect the nasal region.

Infection

Bacterial/Nasal pyoderma (aka mucocutaneous pyoderma)

- Can mimic or complicate DLE
- Can occur as a complication of allergy or endocrinopathy
- Cytology: PMNs, bacteria
- Treat with 3-4 weeks oral antibiotics, topical mupirocin. Beware of the growing rate of resistant Staphylococcal infections.

Other infectious organisms: Many possibilities including bacteria, fungal

- Diagnosis: biopsy, tissue cultures
- Treatment: long term antimicrobials based on culture

Neoplasia

- Various neoplasias may affect the planum and nasal skin and include squamous cell carcinoma, cutaneous lymphoma, round cell tumors, papilloma, fibroma, and fibrosarcoma
- Diagnosis is based on cytology initially but ultimately and definitively by biopsy and histopathology

Keratinization Disorders

Idiopathic nasal hyperkeratosis

- Older dogs usually dorsal hyperkeratosis with concurrent fissures. Treat with hydration, topical keratolytics such as Kerasal® ointment (5% Salicylic acid & 10% Urea) and is OTC at most drug stores

Hereditary nasal hyperkeratosis (parakeratosis) of Labradors

- Probable autosomal recessive. Effects young dogs with onset 6-12 months. Treat with topical propylene glycol, Kerasal.

Metabolic epidermal necrolysis (aka Hepatocutaneous syndrome, superficial necrolytic dermatosis)

- Also affects mucocutaneous junctions, pressure points
- Severe liver disease with resulting abnormal protein metabolism
- Diagnosis: biopsy, labwork, liver ultrasound
- Treat supportively, protein supplementation, procalamine infusion, and control of secondary pyoderma and Malassezia infections, preferably with topical products

Miscellaneous diseases

Dudley nose/Snow nose

- Adult onset, gradual hypopigmentation. May wax/wane seasonally
- Esp. Huskies, Labs, Golden Retrievers
- No treatment needed

Solar dermatitis

- Light skinned dogs, ventrum also commonly affected
- Waterproof sunscreen, sun avoidance

Dermal arteritis of the nasal philtrum

- Described in mostly adult St. Bernards and Giant Schnauzers
- Histopathology reveals a deep arteritis, but biopsy may result in severe hemorrhage and should be avoided if the diagnosis can be made from the characteristic physical examination.
- Responsive to topical tacrolimus, +/- systemic Pentoxifylline, corticosteroids.

"Parasympathetic nose" (Xeromycteria)

- Parasympathetic denervation of lateral nasal gland leads to unilateral desiccation and crusting. It may be associated with KCS, otitis media, hypothyroidism. Treatment is topical emollients, ophthalmic 2% pilocarpine suggested by some.

Immune-mediated diseases

Discoid lupus (DLE)

- Antibodies vs. nuclear and cytoplasmic antigens and may be the most common nasal dermatosis. The condition is aggravated by sunlight. Collies, German Shepherds are predisposed and lesions are usually completely confined to planum nasale.
- Treatment includes sun avoidance/sunscreens, topical tacrolimus/steroids, doxy/niacinamide and only in severe cases are prednisone and/ or azathioprine necessary. Monitor for secondary bacterial exacerbation.

Pemphigus foliaceus

- The second most common immune-mediated skin disease with Chows and Akitas predisposed. May be idiopathic or drug induced. Can potentially cause only nasal lesions but usually more generalized. The treatment is variable and very individualized based on the patient, severity of disease, and distribution of lesions. Options include Tacrolimus for localized lesions and prednisone/azathioprine for more generalized cases. Cyclosporine is also being utilized in autoimmune disorders. Combination of multiple therapies is usually preferable. Do not overmedicate! A few pustules are still compatible with life!
- Diagnosis is based on cytology and histopathology where acantholytic keratinocytes are observed

Pemphigus erythematosus

- Cross over between PF and DLE histologically. Clinically usually affects the nasal area only. Collies and Shepherds are predisposed
- Treatment: Sun avoidance/sunscreens, topical tacrolimus, doxy/niacinamide with prednisone & azathioprine or cyclosporine being utilized in more severe cases.

Dermatomyositis

- Hereditary, likely autosomal dominant with variable expressivity. Young Collies and Shelties are predisposed. Clinical lesions include alopecia, erythema, scaling, scarring +/- erosions of face, ears, digits +/- nasal depigmentation/erosions. Myositis is seen in the more severe cases, with Collies perhaps having a higher incidence of myositis.
- Treatment includes sun avoidance, Vitamin E, pentoxifylline, +/- corticosteroids. Affected individuals should not be used for breeding.

Vasculitis

- Can be the result of any antigenic stimulation ie infectious diseases (esp. tick borne), vaccines, drugs, neoplasia, etc. Lesions at mucocutaneous junctions, ears, tail tip, footpads, +/- skin
- Treatment: treat the primary disease if identifiable. Pentoxifylline, doxy/niacinamide, prednisone, cyclosporine, sulfasalazine, dapsone in more severe cases

Voyt-Koyanagi-Harada Syndrome (VKH or uveodermatologic syndrome)

- Akitas, Huskies, Chows, Samoyeds predisposed. Clinically patients may present with a rapid onset of uveitis, concurrent or later onset of depigmentation/erosion of nose, eyelids, lips, footpads, genitalia
- Treatment requires aggressive therapy due to the potential for blindness and includes prednisone, azathioprine, cyclosporine and topical ophthalmic corticosteroids/cycloplegics and referral to an ophthalmologist if available.

Vitiligo

- Patients present with leukoderma +/- leukotrichia. The pathomechanism may involve Anti-melanocyte antibodies. Rottweiler, Belgian Tervuren and Doberman pinchers are predisposed
- Physical exam reveals depigmentation of nose +/- lips, eyelids, skin with no erosion or loss of reticular pattern of planum. No treatment needed other than potential sun protection.

Sterile granuloma/pyogranuloma

- Collies, Boxers and Golden retrievers are predisposed. Patients present with firm dermal nodules on bridge of nose, muzzle, periocular area, ears, and anywhere else on the skin. Infection and neoplastic diseases should be ruled out with histopathology and tissue cultures. Treatment can include doxycycline/niacinamide, prednisone/azathioprine and or cyclosporine.

Causes of Peri-Nasal Dermatitis

- Diseases that affect haired skin of muzzle, not usually nasal planum and can include almost any known skin disease. Allergy (atopy, food hypersensitivity), folliculitis (bacterial, demodex, dermatophytosis) certainly lead the list of frequently seen peri-nasal dermatitis but photos of other disorders will also be seen with several being discussed in more detail.

Eosinophilic furunculosis

- Characterised by acute development of pruritic, papular, pustular and ulcerative lesions along the dorsum of the muzzle. Etiology is uncertain but possibly insect or arthropod induced. Histopathology should be diagnostic. Treatment involves short term systemic glucocorticoids at 1-2.2 mg/kg daily for 2 weeks, and antibiotics usually not helpful.

Mosquito bite hypersensitivity

- Primarily affects felines with the dorsal nasal and planum affected. Onset is acute, and is most common in cats outside at night.