

University of California, Davis
Veterinary Medical Teaching Hospital
Davis, CA 95616

Small Animal Clinic: 530-752-1393
Dermatology Service

Information for Clients

SUPERFICIAL NECROLYTIC DERMATITIS

Introduction

Superficial necrolytic dermatitis (SND) is an uncommon skin disease of dogs. This disease has also been called hepatocutaneous syndrome, diabetic dermatopathy, metabolic epidermal necrosis, and necrolytic migratory erythema (NME). NME is a somewhat similar disease that is seen in humans. SND is typically diagnosed in older dogs, with male dogs comprising about two-thirds of the cases. Shetland sheepdogs, cocker spaniels, west highland white terriers and a variety of other herding and terrier breeds may be predisposed. SND is not well understood, and has been associated with a number of other disease processes. The skin appears to be a reflection of the internal disease. What is hypothesized is that an underlying hormonal or metabolic disturbance is occurring. This disturbance may be responsible for the severe liver changes seen in many SND dogs, and the occasional accompanying diabetes mellitus. The liver plays a critical role in amino acid balance (the “building blocks” of protein). In SND patients, amino acid blood levels are severely reduced. It is thought the liver catabolism (breaking down) of amino acids is responsible for the severely low amino acid levels noted in dogs with SND. Unfortunately, there is no cure for SND. However, many dogs can have extended and improved quality of life with amino acid and protein supplementation.

Clinical Signs

SND is primarily an internal disease, but manifests itself initially with skin lesions. The skin lesions are visually distinctive and have a characteristic distribution involving primarily the footpads, but lesions are also seen around the eyes, mouth and genital regions. Pressure points such as the elbows and hocks may also be affected. Often, the first clinical sign noted is lameness, due to the footpad lesions, and accompanying lethargy and inappetance. The lesions may appear as crusts and weeping ulcers.

Diagnosis

Diagnosis of SND can only be made by skin biopsy, in which a small sample of the affected skin is excised under a local anesthetic and examined by a pathologist. Confirmation of the diagnosis is achieved by identifying specific liver changes via abdominal ultrasound. The ultrasound may also identify a pancreatic tumor occasionally associated with SND. Baseline blood and urine tests are also recommended to check for other disease processes.

Treatment

As was stated previously, there is no cure for SND, but there is treatment. The purpose of the treatment is to give the patient the best possible quality of life for as long as possible. As the SND patient's body is starved of amino acids and proteins, supplementation with amino acids not only makes them feel better, but their skin lesions may begin to resolve. The amino acids are administered in hospital through an intravenous catheter. Two to three days of continuous amino acid infusion is optimal, but in some cases even a single day of infusion can be beneficial. Infusions should be repeated every 2-4 weeks, or as clinical signs return. At home supplementation is also important. Outlined below are some recommendations. Secondary bacterial or yeast skin infections are common and can be easily treated with oral medications as well as foot soaks.

SND patients should be placed on a highly digestible diet containing a high quality protein. One of the diets recommended is Hill's Prescription Diet i/d.

The diet should be supplemented with Procel, a concentrated high-quality protein powder. Procel is manufactured by Global Unlimited. One scoop provides 5g of protein.

A 10lb dog should receive 1 scoop over food daily.

A 20lb dog should receive 2 scoops over food daily.

A 40lb dog should receive 3 scoops over food daily.

A 60lb dog should receive 4 scoops over food daily.

Zinc supplementation with Zinc Methionine (preferred) @ 0.5 – 1.5mg per lb given orally twice daily with food is recommended. ZinPro by Lincoln Biotech is the available veterinary brand. Alternatively, Zinc sulfate @ 0.5mg per lb given orally twice daily or Zinc gluconate @ 0.75mg per lb given orally twice daily can be used. It is best to give all supplements with food.

Essential Fatty Acid supplementation with Derm Caps by DVM pharmaceuticals is recommended. Give 1 "ES" capsule daily to all dogs over 25 pounds.

Cooked egg yolks have proven to be beneficial in some dogs. Please add _____ cooked egg yolks to your dog's daily diet.