

ACUTE MOIST DERMATITIS IN DOGS
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Acute moist dermatitis, also referred to as hot spots or pyotraumatic dermatitis, is a skin condition characterized by localized, moist, erythematous areas. It is one of the most common presenting signs associated with canine skin disorders. Clinically the lesions appear to arise secondary to self-induced trauma. However, as extreme self-trauma in some dogs will not create a hot spot, while in others, minimal self-trauma can result in severe lesions, it seems apparent that other factors also contribute to the development of hot spots. It is important to be able to distinguish between pyotraumatic dermatitis and pyotraumatic folliculitis. In pyotraumatic dermatitis, the role of bacteria is unclear. If present, the bacterial infection is superficial, often considered to play a secondary role and usually controlled with topical therapy. In contrast, pyotraumatic folliculitis is caused initially by a bacterial skin infection that progresses. The clinician has to examine the lesion carefully to look for "satellite" lesions of papules or crusts (indicating Staphylococcal folliculitis), often only seen when the surrounding apparently normal area is shaved, to determine that the dog has pyotraumatic folliculitis.

DIAGNOSIS OF ACUTE MOIST DERMATITIS

ETIOLOGY AND RISK FACTORS

- **Causes** - Hot spots are self-induced. The exact etiology is unknown, but anything that can initiate an itch-scratch cycle may predispose a pet to this condition. The animal is generally so intensely itchy that an area is traumatized in a very short period of time; severe lesions can be induced within hours in some patients. Once the damage is started, a self-perpetuating cycle of itching and scratching/chewing is initiated.

- **Risk factors**
 - *Age* - Young dogs seem to be predisposed.
 - *Breed/genetics* - Longhaired and thick-coated breeds are more often affected. Golden retrievers, Saint Bernards, Labrador retrievers, German shepherd dogs and Rottweilers seem to be predisposed.
 - *Sex* - No known risk
 - *Geographic/environmental* - Acute moist dermatitis usually occurs during the summer months during times of high temperature and high relative humidity.
 - *Other medical disorders* - Common underlying causes of hot spots include allergies, such as flea allergy dermatitis (most common), atopic dermatitis, food allergy, parasitic infestations such as scabies and demodicosis, otitis externa, anal sac disease, post-clipping/grooming trauma, foreign bodies and contact irritants. Rarely reported causes of hot spots include dermatophytosis, drug reactions, autoimmune disease and vasculitis.

- **Prevention** - Identification of underlying causes in dogs with recurrent hot spots is essential in long-term

prevention. An aggressive flea control program, especially in flea allergic dogs, and identification and specific treatment of other allergic dermatoses or parasitic infestations are highly indicated. Any other situations inducing the itch-scratch cycle (anal sac disease, clipping, foreign bodies in the hair coat etc.) should be considered and treated or avoided.

HISTORY AND CLINICAL SIGNS

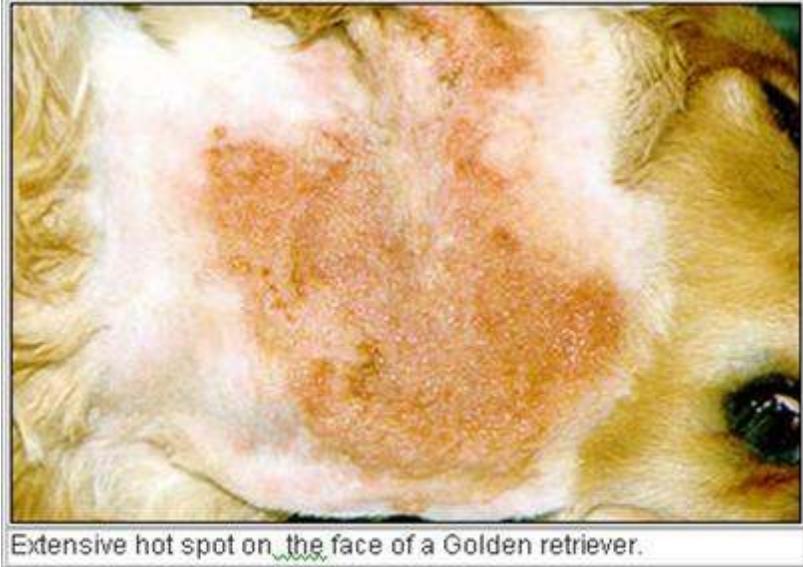
- **Species affected** - Dog
- **Presenting signs and historical problems** - Hot spots may appear suddenly with a very rapid progression. The lesion is erythematous, swollen, alopecic, exudative, and plaque-like. The area is often painful. Crusting and matting of the hair may be present if the patient does not traumatize the area for a few hours. Pruritus is usually intense and the severe self-trauma can cause large lesions (10 cm or more) within hours.

PHYSICAL EXAMINATION FINDINGS

- **General**
 - *Attitude* - The mental status is typically normal, but some dogs may be depressed if severely pruritic and painful.
 - *Body condition* - Unremarkable
 - *Vital signs* - The vital signs are often normal. Some dogs may have a fever.
 - *Mucous membranes* - Unremarkable
 - *Hydration status* - Most dogs are adequately hydrated.
- **Head and neck** - Typical lesions are located on the lateral aspect of the face below the ear. Ear examination often reveals otitis externa, which may be acute or chronic. It is important to perform an otoscopic examination to look for foreign bodies.



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- **Eyes** - Unremarkable
- **Oral cavity** - Unremarkable
- **Thorax (cardio-pulmonary)** - Unremarkable
- **Abdomen (gastrointestinal/urinary)** - Examination of the anal sacs may reveal signs of impaction,

inflammation or infection.

- **Reproductive system** - Unremarkable
- **Lymph nodes** - Unremarkable
- **Integumentary system** - Most commonly affected sites include the face on the cheek and at the base of the ear, caudal dorsal trunk, tail base and caudal and lateral thighs. Note presence of foreign bodies (e.g. grass awns, wood shavings), which may have played a causal role in the development of the hot spot. Shaving the surrounding hair coat is important in looking for satellite papules and crusts indicating pyotraumatic folliculitis.



Identification and treatment of any underlying cause is a very important part of the treatment. Failure to identify the cause of the hot spot will result in recurrent episodes.



Same dog as above after the affected area has been clipped and cleansed with a mild antiseptic.

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- **Neurologic examination** - Unremarkable
- **Musculoskeletal examination** - Unremarkable

DIAGNOSTIC STUDIES

- **Pathology**
 - *Cytology (fluid or tissue)* - Performed from the surface of the lesions, satellite papules if present and ear exudate if present to document presence of bacterial (usually cocci) or yeast (*Malassezia sp.*) infections
 - *Deep skin scrapings* - For demodectic mites
 - *Superficial skin scrapings* - For scabies mites

DIAGNOSIS AND PROGNOSIS

- **Differential diagnosis** - Hot spots are rarely confused with other disorders. Determining the underlying cause, however, can be difficult. Potential underlying causes include:
 - Flea allergy
 - Foreign bodies
 - Atopy
 - Food allergy
 - Otitis externa
 - Contact irritants
 - Scabies
 - Demodex
 - Anal sac disease
 - Irritation after clipping or grooming
 - Dermatophytosis (rare)
 - Drug reaction (rare)
 - Immune mediated disease (rare)
 - Vasculitis (rare)
- **Recommended tests** - Physical examination is the key to diagnosis.
- **Summary of diagnostic criteria** - Diagnosis is based on the history of rapid onset and the clinical

appearance.

- **Prognosis** - When treated early, the prognosis is excellent. Unfortunately, if the underlying cause is not discovered and treated, recurrence is common.

TREATMENT OF ACUTE MOIST DERMATITIS

TREATMENT PRINCIPLES

There are 4 key treatment principles. These include:

- Cleaning and drying the lesion
- Systemic anti-inflammatory treatment to stop the itch-scratch cycle
- Systemic antibiotics if pyotraumatic folliculitis is present
- Identification and control of the underlying disease in the case of recurrent hot spots

INITIAL/HOSPITAL THERAPY

- The involved area should be clipped and gently cleansed with a mild antiseptic, such as chlorhexadine. Sedation or even general anesthesia may be necessary where lesions are very painful or in fractious dogs. Drying agents are then used (Burow's solution, Domeboro solution [2% aluminum acetate], or aluminum acetate with 1% hydrocortisone [CortAstrin or Dermacool HC]). These same products can be used by the owner at home for a few days until the lesion is not pruritic and is dry.
- An initial injection of a short-acting corticosteroids, such as prednisone, dosed at 0.5 mg/kg IM, is often used. For severely affected dogs, a further 2 to 5 days of oral prednisone (0.5 mg/kg once daily) may be necessary. There is no indication for the use of long-acting repositol injectable corticosteroids.

LONG-TERM/HOME THERAPY

- Astringent products like Domeboro can be used for the first few days to dry out the area. Antipruritic sprays containing 1% hydrocortisone, 1.5% lidocaine or 1% pramoxine may also be helpful but are short acting. These same products can be used by the owner at home for a few days until the lesion is not pruritic and is dry.
- Interruption of the itch cycle is crucial. Once the cycle is triggered, it is usually important to stop it in order to prevent self-mutilation. A short course of oral corticosteroids is often indicated (prednisone 0.5 mg/kg for 5 days). Elizabethan collars may be indicated to prevent self-trauma.
- In the case of pyotraumatic folliculitis, systemic antibiotic treatment is necessary to resolve the infection. In those cases, a course of antibiotic treatment may be necessary. Cephalexin (22 mg/kg BID) given for 21 days is commonly used. For pyotraumatic dermatitis, the secondary bacterial infection on the surface of the lesion can usually be controlled with the use of topical antimicrobial agents (such as chlorhexidine and benzoyl peroxide) alone for a few days until the lesion is dry and non-pruritic.
- Identification and treatment of any underlying cause is a very important part of the treatment. Failure to identify the cause of the hot spot will result in recurrent episodes. Many cases are secondary to a flea allergy, and aggressive flea control is usually necessary.

FOLLOW-UP CARE

Most cases resolve quickly after appropriate treatment. Those patients unresponsive to therapy or with recurrent hot spots require more extensive diagnostic tests to determine the underlying cause.