

Callus Formation

AETIOLOGY AND PATHOGENESIS

A callus is a defined area of thickening of the skin and hair loss which typically occurs over bony pressure points. The thickening of the skin are due to irritation, resulting from frictional contact with a hard surface on the exterior of the skin and pressure from an underlying bony prominence.

CLINICAL FEATURES

Callus development occurs more frequently in large, short-haired breeds that sleep on hard surfaces, such as concrete, wood, brick, or rock. Lesions usually develop on the lateral aspect of the elbows or hocks. They may also develop on the sternum of deep-chested dogs or dogs with short legs in which the chest may continually contact objects such as stairs. Calluses appear as focal areas of hair loss and thickening of the skin with a light gray surface. Entrapment of hair and/or sebum in a callus may result in a foreign body reaction with draining tracts and secondary bacterial infection.



DIFFERENTIAL DIAGNOSES

- Demodectic mange
- Tumors
- Ringworm
- Deep bacterial infection of the skin
- Zinc responsive dermatosis

DIAGNOSTIC TESTS

Diagnosis is generally based on the history and clinical features. Bacterial culture and sensitivity may be appropriate if there is secondary infection.

MANAGEMENT

The animal's sleeping habits should be modified so that it rests on soft bedding material, such as foam rubber padding. Custom or home-made clothing with pads over the affected the pressure points are also useful. Callus size may be reduced by daily application of a preparation containing 6.6% salicylic acid, 5% sodium lactate, and 5% urea, which promotes desquamation of the stratum corneum. Twice daily treatment with flucinolone acetonide in dimethyl sulfoxide hastens the process by reducing inflammation and decreasing basal cell turnover rates. Care must be exercised to avoid overdoing treatment and creating an erosion or ulcer. Calluses should not be surgically removed as this frequently results in a non-healing wound.

If infection is present, then systemic treatment with bactericidal antibacterial agents is indicated, based on culture and sensitivity testing. Treatment should be continued until the lesions have resolved. For deep infections associated with hair granulomas and fibrosis this may take many weeks.

KEY POINT

- Management is a key issue in the control of this problem.