

# Bacterial skin infection associated with canine calcinosis cutis lesions: Harnessing the power of *fluorescent light energy*



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## INTRODUCTION

**Calcinosis cutis** is a skin condition where mineral salts are deposited in the skin and one **major cause is iatrogenic hypercortisolism**.

**Secondary** (superficial or deep) **bacterial** skin infection can occur, requiring, in addition to the management of the underlying disease, appropriate antimicrobial treatment.



**Figure 1:** Dog at the time of the first examination.  
Courtesy of Dr. Neoklis Apostolopoulos

**15-year-old male golden** retriever who had been receiving prednisolone for orthopaedic problems for the past 2 years was presented for multifocal symmetrical alopecia, skin nodules and plaques on the dorsal aspect of the body, and a pot-bellied abdomen (**Figure 1**).

## AIM OF THE STUDY

To report the **effect of Fluorescent Light Energy (FLE)** to manage **pyoderma** associated with **calcinosis cutis** plaques in a dog.

## CLINICAL PRESENTATION

**Cytological examination** (Romanowsky stain) of direct impression smears obtained from the nodules revealed moderate pyogranulomatous inflammation with intracellular and extracellular cocci and focal multinucleate giant cells surrounding transparent crystals compatible with calcium salts.

Based on the history, physical examination, laboratory and cytological examination, a **diagnosis of superficial pyoderma associated with calcinosis cutis** due to suspected iatrogenic hypercortisolism was established.

FLE was applied once a week with two consecutive applications in the same session in addition to topical dimethyl sulfoxide (DMSO), systemic antibiotic therapy (cefalexin) and topical antiseptic shampoo (chlorhexidine and miconazole).

**To evaluate the effect of FLE** in aiding the resolution of the secondary bacterial skin infection, half of the lesions were not exposed to the FLE system using a barrier method during treatment sessions. These lesions received all other therapies, thus serving as a control. **Physical and cytological examination of both FLE treated and untreated areas were performed once weekly.**

## RESULTS



**Figure 2: Dog at week 10.**  
Courtesy of Dr. Neoklis Apostolopoulos

**Systemic antibiotics were discontinued at week 4** and the patient was treated with **topical therapy alone**. Beginning in the fifth week, an accelerated improvement in the FLE treated sites was observed. Cytologically, the FLE treated areas had no detectable bacterial infection, whereas the other areas were still infected.

**After 7 weeks of FLE treatment, the pyoderma completely resolved** and FLE was discontinued. FLE-untreated sites were treated with topical therapy until week 10 (bacteria-negative cytology).

**At week 10, the patient's hair had almost fully regrown and there were no clinical signs of pyoderma (Figure 2).**

## CONCLUSION

In pyoderma associated with calcinosis cutis plaques, FLE treated sites showed an accelerated cytological improvement, compared with lesions that were not managed with FLE. This finding is in accordance with other reports and suggests that FLE can be used as an adjunctive approach for many different forms of bacterial skin infection, and may help reduce the usage of systemic antibiotics.



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