# Feline sporotrichosis: The use of laser therapy as a new strategy for treating a neglected zoonosis

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## Abstract

Sporotrichosis is a subcutaneous mycosis caused by pathogenic fungi of the genus *Sporothrix* spp. Around the world, the sporotrichosis is associated to injuries caused while dealing with organic materials. However, in Brazil, there is an unprecedent sporotrichosis epidemic ongoing, with a high number of reported animal and human cases caused by scratches or bites from infected animals, and these cases show a prevalence of *Sporotrichosis brasiliensis*, the most virulent and aggressive species. This disease has been spreading to other countries such as Argentina, Paraguay, and Panamá. Lately, three cases of zoonotic sporotrichosis caused by *S. brasiliensis* were identified in the United Kingdom, in cats imported from Brazil. These reports serve as an alert for the risks of this agent for global public health. The treatment of feline sporotrichosis is the key for controlling the disease because it interrupts its transmission cycle. Unfortunately, the treatment itself represents the greatest challenge to combatting the disease since there is a limited number of antifungal agents recommended for treating feline sporotrichosis according to literature. Although itraconazole has showed good results against *S. brasiliensis*, an increasing number of strains immune to this azole have been identified in recent years. The high cost of the treatment and its long duration result in a rejection to it, and the sick animals are abandoned before completing the treatment as a consequence. So, alternative treatments, which can heal animals in a shorter period, with a reduced direct contact from the responsible for the animal, and also less expensive are a key tool to control this zoonosis. Recently, our work demonstrated the effectiveness of laser therapy in treating feline sporotrichosis, and even months after complete healing, no recurrences were detected. Thus, laser therapy is presented as a cheap, faster, and viable option for containing this zoonosis in constant expansion.

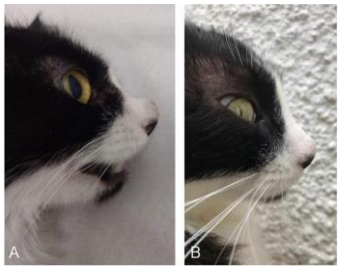



Figure 1 : Evolution of lesions after photodynamic therapy. (A) Laser therapy treatment in a female feline with sporotrichosis with a non-ulcerative nodular lesion in the nasal plane before treatment; (B) Total regression of the lesion after six treatment sessions.

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