

***Sporothrix*, qué sabemos del agente causal de una saprozoonosis en expansión**

ISABELLA DIB FERREIRA GREMIÃO

Fundação Oswaldo Cruz. Rio de Janeiro, Brasil

isabella.dib@ini.fiocruz.br

Sporothrix sp. harbors 53 species, but infections are typically caused by *S. brasiliensis*, *S. schenckii* or *S. globosa*. Historically, sapronotic transmission (from the environment) was the most common source of this fungus, but zoonotic infections have become increasingly common due to the emergence of *S. brasiliensis*. Two species generally follow an environmental route of transmission, *S. schenckii* and *S. globosa* whereas *S. brasiliensis* is almost exclusively transmitted by the bite, scratch, or contact with cutaneous lesions exudate of an infected cat. This animal species entry in the transmission chain of sporotrichosis generating epizooties (cat-cat) or zoonosis (cat-human). No documented cases of sapronotic transmission of *S. brasiliensis* exist, however fungi presence on plant and organic matter makes this type of transmission plausible. In Brazil, *S. brasiliensis* is known as the major etiological agent (> 90 % of the cases) of human and feline sporotrichosis, and has become a major public health concern. Rise and spread of sporotrichosis cases in Brazil were overlooked for several years, making a previously rare, frequent and uncontrolled disease in many regions. This emerging pathogen is highly virulent, associated to a systemic disease in cats and severe extracutaneous manifestations in humans. Besides Brazil, human and feline infections with *S. brasiliensis* have been documented in Argentina and Paraguay, showing a potential transboundary expansion of this virulent species

to other regions in Latin America. In Argentina, over the last 8 years, there have been 0.16 new feline sporotrichosis cases per month in 2011, increasing to 0.75 cases per month in 2019 involving zoonotic transmission to humans. Although zoonotic sporotrichosis produced by other *Sporothrix* spp. has been documented more widely (United States, Malaysia, India, and Mexico), these infections were caused by *S. schenckii* and typically occur as isolated cases or contained outbreaks. *Sporothrix brasiliensis* has led to a shift in the traditional epidemiology of sporotrichosis, and the zoonotic nature of this emerging pathogen poses unique barriers to halting its spread. Some of the major barriers to control cat-transmitted sporotrichosis include the lack of systematic surveillance, adequate treatment and disease control in feline populations. Feline sporotrichosis spreads widely within cat populations, which presents a hurdle to control zoonotic transmission. Due to the fact that many cats have unrestricted outdoor access, they are likely to infect other cats and shed the fungus into the environment. Lastly, limited awareness of this emerging pathogen among physicians and veterinarians also threatens containment efforts. Feline sporotrichosis early diagnosis is essential to guarantee appropriate owners prevention. In addition, prompt treatment in felines can rapidly reduce the fungal burden and transmission risk of *Sporothrix* by cats. Thus, the availability of itraconazole, the first-line treatment for humans and animals, is essential in affected areas health units. Education campaigns should aim to provide information to veterinary and human medical providers. Health authorities from neighboring countries should be aware of signs and symptoms of disease in order to identify cases early and rapidly that will allow them to implement prevention and control measures. The increased virulence, treatment challenges, and adaptation to the feline host make *S. brasiliensis* especially challenging to control, therefore the impact of this pathogen on human and feline populations has been

substantial. The risk of continued outbreaks in Brazil and dissemination into other countries further underscores the importance of addressing this emerging disease.

Keywords: sporotrichosis, *Sporothrix brasiliensis*, cat, zoonosis.

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