women included). While the mean CD4 count of CsAg serum-positive patients were significantly lower than that of negative patients (P < 0.05), the median viral load between the two patient groups was approximately similar (P = 0.05). Only four CsAg samples were positive in culture for Cryptococcus spp. and were all characterized as Cryptococcus neoformans/winteriae A. Affinity stage, two isolates have been analysed using the DHHAM MLST scheme and two different sequence types (ST) profiles were identified, namely ST97 and ST88. While ST97 is the main Cryptococcus neoformans profile described in Congolese (DRC) PLHIV with CsAg, CM, ST88 has not yet been identified in the DRC before. Of note, epidemiological and clinical characteristics of ST88 have so far been poorly characterized in the literature. Susceptibility testing against the major antifungals and the MLST typing of the two remaining strains are still ongoing.

Conclusions: The prevalence of cryptococcosis should not be neglected among symptomatic PLHIV in the DRC, in meaning that screening and preventive treatment measures should be integrated into the national policy for HIV management and related diseases. For the rest of the analyses still in progress, conclusions can only be drawn once they have been fully finalized.

PM2

Spread of sporotrichosis brasiliensis from the sneeze of infected cats: a potential novel route of transmission

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Objective: Cat-transmitted sporotrichosis (CTS), caused by Sporothrix brasiliensis, is an emerging fungal disease that has become a major public health concern in Brazil. Transmission of CTS usually occurs through the implantation (e.g., scratch or bite) of infectious yeast from feline Sporothrix lesions. Recent reports on transmission events have suggested that S. brasiliensis might be transmitted through feline respiratory droplets created while sneezing. The aim of our study is to determine whether infectious respiratory secretions are expelled when cats with sporotrichosis sneeze.

Methods: We collected respiratory secretions expelled while sneezing from 28 cats diagnosed with sporotrichosis. We placed a Mycosel agar plate, a fungal culture medium, in front of the animals’ nostrils and used a nasal swab to stimulate sneezing (Fig. 1). Samples were incubated at 28-30°C for 4 weeks in the Mycology laboratory of Hospital de Clínicas. Molecular identification of the isolates was performed by sequencing the calmodulin gene. The infected cats enrolled in the study were subsequently reared at the School Veterinary Clinic of the Pontifical Catholic University of Paraná, a referral hospital for the treatment of feline sporotrichosis.

Results: One of the 28 respiratory samples collected, 20 (70%) had evidence of fungal growth morphologically consistent with Sporothrix. Sequencing of all isolates identified Sporothrix brasiliensis (Fig. 2).

Conclusions: We identified a possible novel route of transmission of Sporothrix spp. through infectious feline respiratory secretions expelled during sneezing. The respiratory droplets expelled by a sneeze could contain viable Sporothrix yeast that could infect humans and other animals after macular exposure. One health partner and collaborator such as veterinarians, physicians, health authorities, epidemiologists, and fungal disease researchers should be made aware of the potential spread of Sporothrix through respiratory droplets and sneezing to prevent and control the further spread of CTS. To prevent cat-to-human transmission of Sporothrix brasiliensis, personal protective equipment (PPE) should be worn while handling a cat with suspected sporotrichosis. Veterinarians, veterinary clinic employees, students, and pet shop owners are at increased risk due to their professions. Veterinary cats frequently involve procedures that encourage respiratory droplets (e.g., nasal sneeze). Contact and other close contact may directly expose staff to infectious secretions. Because this study identified viable yeast in respiratory droplets from sneezing, decontamination and disinfection of exposed surfaces is increasingly important, as surfaces and objects can serve as fomites for Sporothrix. Physicians who diagnose and treat human cases of sporotrichosis should be aware of this new transmission method to improve clinical suspicion, diagnosis, and treatment for sporotrichosis. Approximately half of the human patients with contagious sporotrichosis did not report experiencing traumatic injury from cats, macular exposures to infectious yeast is a likely alternative transmission method.

Poster Presentation
Toxicological evaluation of Aureobasidium pullulans var. pullulans-induced mycotoxicosis in amniote model

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Objective: The genus Aureobasidium includes 14 species, among which Aureobasidium pullulans is the most well-known species. Aureobasidium pullulans, includes two well-documented varieties found in indoor environments and associated with health issues: A. pullulans var. pullulans and A. pullulans var. pullulans. Aureobasidium pullulans is a mold belonging to the family Dreschleraceae. It colonizes nails, hair, and skin in humans. Deliberate immune reactions may occur in humans, like hypersensitivity pneumonitis and allergies. Respiratory allergies may result in due to high levels of Aureobasidium in the air. The metabolites of the mold, like mycotoxins, are known to cause toxic-ritrinsic effects. In view of this, the present work evaluates the effects of the toxic secondary metabolites of A. pullulans var. pullulans (CBS 177793) in a murine model.

In order to examine the toxicological potential of A. pullulans pullulans (CBS 177793) for the production of mycotoxins, an understanding of its mode of action in an animal model is necessary. In the present study, we report the mycotoxicological activity of A. pullulans pullulans (CBS 177793) in a murine model.

Material and Methods: Mycotoxins isolated from A. pullulans pullulans (CBS 177793) were used for the experimental induction of mycotoxicosis in Swiss mice (ICR strain). The mycotoxin was administered intraperitoneally (IP) and intranasally (IN). To assess the toxic effects of A. pullulans mycotoxins, eight organs, namely brain, liver, kidneys, spleens, stomachs, heart, brains, and testes, were taken into consideration. The hematological, histopathological, and biochemical aspects of A. pullulans-induced mycotoxicosis were investigated.

Results:
- Behavioral observations: A significant decrease in the consumption of food in both IN and IP groups was noted.
- Anatomical observations: Gross lesions on the liver and lungs and the presence of cyan or polypus were noted on autopsy in both groups. Likewise, relative organ-body weight percentage also increased in all the organs examined in the testis.
- Histopathological analysis: Amyloidosis and neoplasia were observed in IP as well as IN groups.
- Biochemical analysis: Electrolyte levels (Na, K, Ca, and Mg) and urea, creatinine, glucose, and albumin were noted.

Discussion: Our findings suggest that exposure to A. pullulans pullulans mycotoxins has the potential to cause significant adverse effects on the organs of Swiss mice. The results of this study highlight the need for further research to understand the mechanisms underlying these effects and to develop strategies to mitigate the health risks associated with exposure to A. pullulans pullulans mycotoxins.