Cryptococcosis screening and isolates characterization in asymptomatic people living with HIV in Kinshasa, DRC

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P461

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Figure 1. Diagram of the Dynamiker GM (LFA) (A) and its reader (B)

Figure 2. Dynamiker GM (LFA) (A) and its reader (B)

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Table 2. Dynamiker GM (LFA) (A) and its reader (B)

Table 3. Dynamiker GM (LFA) (A) and its reader (B)

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Table 5. Dynamiker GM (LFA) (A) and its reader (B)

Table 6. Dynamiker GM (LFA) (A) and its reader (B)

Table 7. Dynamiker GM (LFA) (A) and its reader (B)

Table 8. Dynamiker GM (LFA) (A) and its reader (B)

Table 9. Dynamiker GM (LFA) (A) and its reader (B)

Table 10. Dynamiker GM (LFA) (A) and its reader (B)

Table 11. Dynamiker GM (LFA) (A) and its reader (B)

Table 12. Dynamiker GM (LFA) (A) and its reader (B)

Table 13. Dynamiker GM (LFA) (A) and its reader (B)

Table 14. Dynamiker GM (LFA) (A) and its reader (B)

Table 15. Dynamiker GM (LFA) (A) and its reader (B)

Table 16. Dynamiker GM (LFA) (A) and its reader (B)

Table 17. Dynamiker GM (LFA) (A) and its reader (B)

Table 18. Dynamiker GM (LFA) (A) and its reader (B)

Table 19. Dynamiker GM (LFA) (A) and its reader (B)

Table 20. Dynamiker GM (LFA) (A) and its reader (B)

Table 21. Dynamiker GM (LFA) (A) and its reader (B)

Table 22. Dynamiker GM (LFA) (A) and its reader (B)

Table 23. Dynamiker GM (LFA) (A) and its reader (B)

Table 24. Dynamiker GM (LFA) (A) and its reader (B)

Table 25. Dynamiker GM (LFA) (A) and its reader (B)

Table 26. Dynamiker GM (LFA) (A) and its reader (B)

Table 27. Dynamiker GM (LFA) (A) and its reader (B)

Table 28. Dynamiker GM (LFA) (A) and its reader (B)

Table 29. Dynamiker GM (LFA) (A) and its reader (B)

Table 30. Dynamiker GM (LFA) (A) and its reader (B)

Table 31. Dynamiker GM (LFA) (A) and its reader (B)

Table 32. Dynamiker GM (LFA) (A) and its reader (B)

Table 33. Dynamiker GM (LFA) (A) and its reader (B)

Table 34. Dynamiker GM (LFA) (A) and its reader (B)

Table 35. Dynamiker GM (LFA) (A) and its reader (B)

Table 36. Dynamiker GM (LFA) (A) and its reader (B)

Table 37. Dynamiker GM (LFA) (A) and its reader (B)

Table 38. Dynamiker GM (LFA) (A) and its reader (B)

Table 39. Dynamiker GM (LFA) (A) and its reader (B)

Table 40. Dynamiker GM (LFA) (A) and its reader (B)

Table 41. Dynamiker GM (LFA) (A) and its reader (B)

Table 42. Dynamiker GM (LFA) (A) and its reader (B)

Table 43. Dynamiker GM (LFA) (A) and its reader (B)

Table 44. Dynamiker GM (LFA) (A) and its reader (B)

Table 45. Dynamiker GM (LFA) (A) and its reader (B)

Table 46. Dynamiker GM (LFA) (A) and its reader (B)

Table 47. Dynamiker GM (LFA) (A) and its reader (B)

Table 48. Dynamiker GM (LFA) (A) and its reader (B)

Table 49. Dynamiker GM (LFA) (A) and its reader (B)

Table 50. Dynamiker GM (LFA) (A) and its reader (B)
women included. While the mean CD4 count of CtAg seronegative 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 CtAg samples were positive in culture for Cryptococcus spp. and were all characterized as Cryptococcus neoformans/auris-type A. Anal stage, two isolates have been analyzed using the IHMA MLST scheme and two different sequence types (ST) profiles were identified: sample ST51 and ST63. While ST51 is the main Cryptococcus neoformans described in Congolese (DRC) PLHIV with CM, ST63 has not yet been identified in the DRC before. Of non-epidemiological and clinical speculation, ST63 has so far been poorly characterized in the literature.

Objectives: 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.

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).

Poster Presentations

Poster session 3, September 23, 2022, 12:30 PM - 1:30 PM

322

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

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Objectives: 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., scratching or bites) of infectious yeast from feline Sporothrix lesions. Recent reports on transmission events have suggested that S. brasiliensis might be transmitted through feline respiratory droplets expelled while sneezing. The aim of our study is to determine whether infectious respiratory secretions are expelled when cats with sporotrichosis sneeze.

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).

Conclusion: We identified a possible novel route of transmission of Sporothrix spp. through 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 mucous 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 cases frequently involve procedures that encourage respiratory droplets (e.g., nasal smears), contact and other close contact may directly expose staff to infectious secretions. Because this study identified viable yeast in respiratory secretions from sneezing, counterproductive attempts to restrict sneezing in cats may result in increased exposure to infectious yeasts in a likely alternative transmission method.