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Histoplasma var. *duboisii* in Portugal. African souvenir ?

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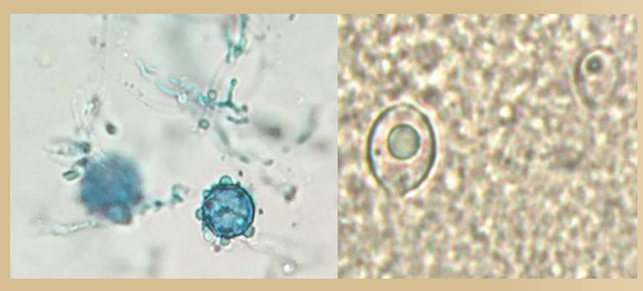
Introduction

Histoplasma capsulatum is a thermally dimorphic fungi. Infections are caused by two varieties: *Histoplasma capsulatum* var*. capsulatum,* endemic in North and South America, and *Histoplasma capsulatum* var*. duboisii,* endemic in Central and West Africa and Madagascar Island. Variety *duboisii* has tropism for lymph nodes, skin, and bones, being classically associated with cutaneous lesions.

In the last decades, several imported cases of African histoplasmosis have been reported in Portugal; the majority of them appeared only 40 years after exposure and in soldiers that fought in Portuguese African countries during the sixties. In 1975 Portugal received half a million Portuguese returnees from the African colonies, being considered as the greatest exodus in the Portuguese history. It is known that travelling and migrations contribute to changes in the epidemiological pattern of this infection. Nevertheless, the true burden of African histoplasmosis is not fully known since it is not a notifiable disease.



Microscopy of the filamentous and yeast phase of *H. capsulatum* var. *duboisii*

Materials and Methods

We retrospectively reviewed cases of African histoplasmosis diagnosed in Portugal at the Mycology National Reference Laboratory and cases published in scientific papers from 2009 to 2017. Published cases were searched using the following search engines: PubMed, and B-on Platform. Collected data included clinical presentation, underlying disease, outcome, age and gender, country of exposure, place of birth, period of exposure and methodology for the diagnosis.

Portuguese territory in Africa until 1974

Aim of the study

The aim of this work was to review the number of cases of African histoplasmosis reported in Portugal during an 8 year period and raise the attention to the clinical features of this infection and also to the importance of including histoplasmosis in the differential diagnosis of infectious diseases in countries with high levels of immigration from endemic regions.

Results

Between 2009 and 2016, eight cases of African histoplasmosis were reported (Table 1) five were localized infections, whereas three patients presented disseminated infection with multiple lesions, In these last cases, two of the patients were children. In all cases except one, patients were male, with a median age of 62 years old. Three patients born in Guinea-Bissau and five have born in Portugal and had been exposed in Guinea-Bissau or Angola long time ago. The median latency period after exposure was 40.5 years. Culture was positive in 7 out of 8 cases. Histological stains for fungi were performed in 7 cases and narrow large based yeasts were observed in all the cases. Antibody testing was performed in 3 cases but only 1 was positive.

Patient	Year of diagnosis	Gender	Age when diagnosed (yrs)	Place of birth	Country of exposure	Latency period (yrs)	Clinical presentation	Presence of bone lesions	Underlying disease	Antifungal Treatment	Outcome
1	2009	male	38	Guinnea-Bissau	Guinnea-Bissau	11	intra abdominal abcess	no	none	liposomal Ampho-B/ itraconazole	full recovery
2	2013	male	76	Portugal	Guinnea-Bissau/ Angola	41	skin ulcer	no	HIV/AIDS treated TB	liposomal Ampho-B/ itraconazole	recovery
3	2013	male	12	Guinnea-Bissau	Guinnea-Bissau	12	slkin ulcer	no	TB	liposomal Ampho-B/ itraconazole	recovery
4	2014	male	60	Portugal	Guinnea-Bissau	45	pulmonary nodule	no	none	itraconazole >7 years	symptoms recovery but perisistence of nodules
5	2015	male	64	Portugal	Angola	40	Collon Ulcer	no	hepatic disease	liposomal Ampho-B/ itraconazole	parcial recovery
6	2015	male	68	Portugal	Angola	44	tonsillar ulcer	no	none	itraconazole	recovery
7	2016	male	72	Portugal	PALOP	49	foot lesion reativation ancient	yes	chronic kidney disease	liposomal Ampho-B/ itraconazole	parcial recovery
8	2016	female	7	Guinnea-Bissau	Guinnea-Bissau	1	multiple cutaneous and	yes	none	liposomal Ampho-B/ Pozaconazole	stabilized

Table 1– Summary of data on cases of African Histoplasmosis diagnosed in Portugal from 2009 to 2016

In 1961 portuguese troops embark on the ship Vera Cruz on the way to Luanda

From 1974-1976 half million portuguese returned to Portugal from the African portuguese countries

Conclusions

Although histoplasmosis is considered as a rare disease in Portugal, these data should be kept in mind for persons who born in or have travelled to Africa, even if the return from the disease-endemic area occurred many years after. Underlying immunosuppression is not condition for this infection. Histological stains for fungi and culture are both gold standard for diagnosis. Molecular methods are not commercially available and antibody detection may not be as sensitive for African histoplasmosis as it is for the *capsulatum* variety. Increased intercontinental travelling raises the risk of acquiring endemic infections like histoplasmosis. Prognosis of the disease depends on early diagnosis and administration of appropriate and well-conducted therapy. Surveillance is mandatory to understand the true burden of the disease.

References

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