

P115- PULMONARY LESIONS CONSISTENT WITH DISSEMINATED ADIASPIROMYCOSIS IN EGYPTIAN MONGOOSSES (*Herpestes ichneumon*) FROM PORTUGAL



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INTRODUCTION

The Egyptian mongoose (*Herpestes ichneumon*), is a small terrestrial carnivore from the *Herpestidae* family¹. Adiaspiromycosis, caused by dimorphic fungus of the genus *Emmonsia*, is primarily a respiratory disease, rare in humans, which affects small mammals, especially, rodents, carnivores and mustelids². *Emmonsia crescens* is widespread in Europe, whereas *Emmonsia parva* is found mainly in some xerothermic regions, including parts of the Americas, Central Asia, and Africa³.

MATERIAL AND METHODS

Eight Egyptian mongooses, killed by vehicular trauma and stock control of predators in Idanha-a-Nova, Portugal (39° 55' 11" North, 7° 14' 12" West) during the period of 2010-2011 were subjected to necropsy. Samples consisting of liver, spleen, kidney, intestine and lymph nodes were collected and submitted to histopathological examination. Tissues were fixed in 10% neutral buffered formalin, embedded in paraffin according to standard laboratory procedures, sectioned at 3 µm and stained with haematoxylin-eosin and Period acid-Schiff stain (PAS).

RESULTS

Gross pathological examination of lungs at post mortem revealed focal lesions in 3 animals. The lesions were whitish/cream, widely distributed, and most were 0.5–3 mm diameter. At microscopy, the lungs from 3 animals showed cystic structures ranging from 170–420 µm, consistent with visible intact adiaspores, generally containing basophilic, unstructured clod-like floccular material and an eosinophilic (Figs. 1A to 1D), PAS positive (Fig. 1E), amorphous wall about 80–100 µm thick. The wall of the spores was sometimes crenated or damaged (Fig. 1E and 1F), and surrounded by macrophages and eosinophils (Fig. 1A) or by typical granulomatous lesions (Figs. 1B to 1D). The later were characterized by the presence of an infiltrate composed of lymphocytes, plasma cells, occasional eosinophils, and macrophages (Figs. 1B to 1D, and 1F), around the spore, sometimes with a faint fibrous capsule. Multinucleated giant cells were also observed (Figs. 1B to 1D). One animal exhibited only adiaspores and abundant foamy macrophages. All animals affected displayed hemorrhagic lesions, and two of them also showed granulomas of parasitic origin (Fig. 1F).

DISCUSSION AND CONCLUSION

The adiaspores of *E. parva* grow to up to 20 to 40 µm whereas *E. crescens* adiaspores reach diameters of up to 500 µm⁴. All adiaspores found in the lungs of the three Egyptian mongooses were consistent with *E. crescens*. The Egyptian mongoose feeding habits include hunting insects by placing their noses to the earth and sniffing, following which they either snatch the insects up above ground or dig them out from below the dirt¹. This behavior exposes the animals to a variety of saprophytic fungi that are most commonly isolated from soil, including pathogenic species such as *Emmonsia* spp³. This may explain the relative high number of animals affected (3 out of 8), which are however, and to the best of our knowledge, the first cases of pulmonary lesions consistent with adiaspiromycosis reported in Egyptian mongooses (*Herpestes ichneumon*) in Portugal.

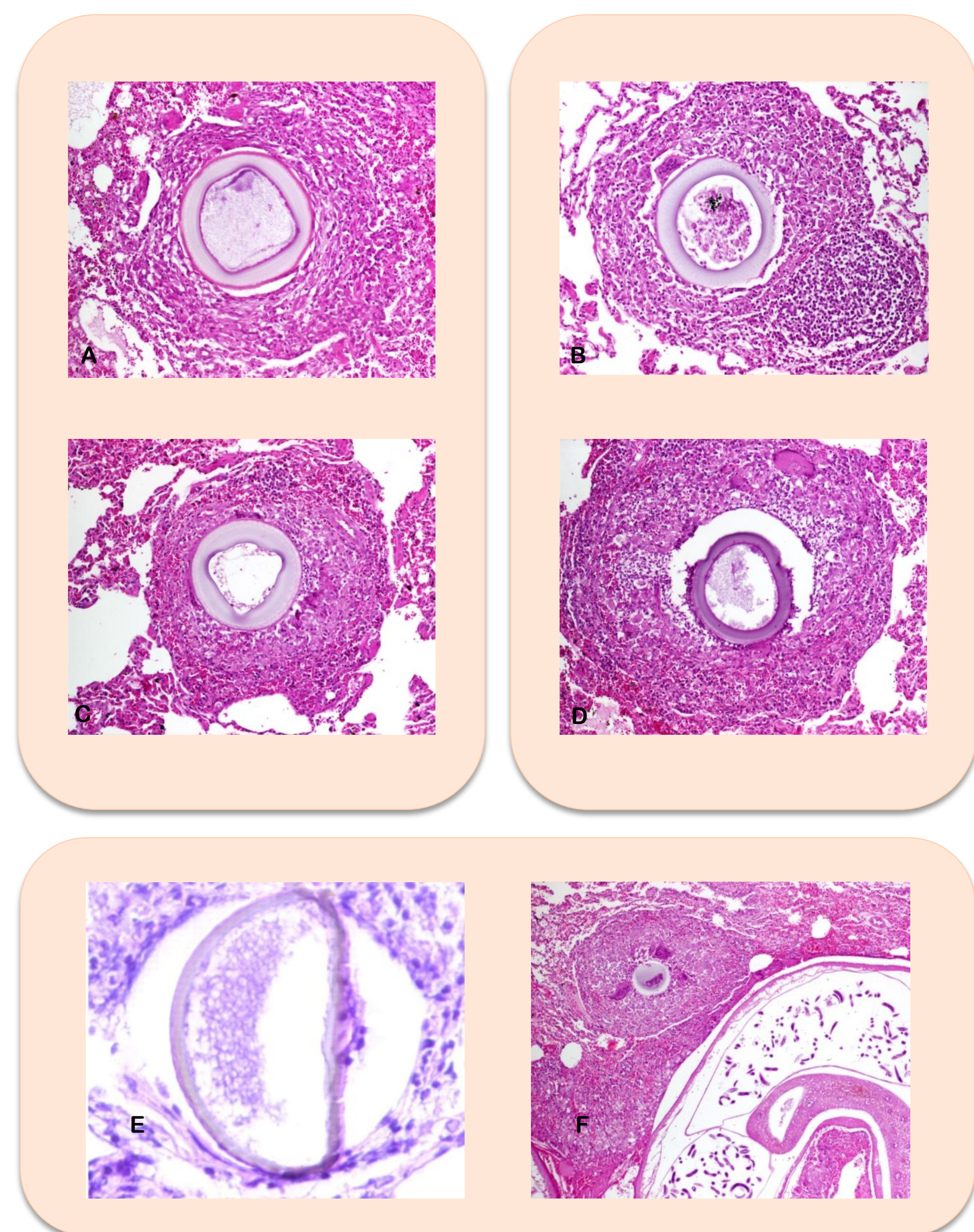


Figure 1: Morphological aspects of the lesions in the lungs of Egyptian mongooses (*Herpestes ichneumon*): adiaspores consistent with *E. crescens* disseminated throughout the lung parenchyma (A to F), surrounded by macrophages and eosinophils (A) or by an inflammatory infiltrate composed of lymphocytes, plasma cells, macrophages, occasional eosinophils and multinucleated giant cells (granulomatous lesions) (B to D, and F). Even damaged, the wall of the adiaspores shows a positive reaction to the PAS stain (E). Haematoxylin and Eosin. PAS stain. Original magnification: A to D and F, 20x; E, 60x.

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