Pulmonary Aspergillosis in Ostrich

Case Report

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Birds are routinely exposed to this fungus and only rarely become pathogenic and the lower respiratory tract is most severely affected by inhalation rout. There have been some recent reports about respiratory aspergillosis in ostrich (Kyoung 2001, Marks *et al* 1994). Aspergillus spp usually cause disease under condition of stress, immunosupression, and prolonged treatment with antibiotics or massive exposure to the microorganism. Clinical signs of aspergillosis in ostriches are weight loss, lethargy and dyspnea (Kyoung 2001). Other less common forms of aspergillosis in birds are encephalitis, ophthalmitis, osteomyelitis, dermatitis and systemic form (Fitzgerald & Moisan (1995). *A.fumigatus* was isolated in some cases of respiratory aspergillosis (Campbell (1986). It has been reported that aspergillosis was observed in ostriches in the late 19th and early 20th centuries, but is relatively uncommon today (Terzich & Vanhooser (1993). This is the first case report of aspergillosis due to *A.fumigatus* in Iran. The ostriches of this report had received chloramphenicol and enrofloxacin for a long time (45 days) so these drugs may have been the cause of the pulmonary aspergillosis.

Case history

In a flock with 165 ostriches (Struthio Camelus) in Tehran province, two four-month-old male ostriches with respiratory distress and dyspnea, open mouth

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breathing, loss of appetite, weakness and retardation of growth were observed and finally died. Four weeks before appearing of clinical findings, enrofloxacin and chloramphenicol had been administered for 45 days.

Macroscopically, there were white and gray nodules about 1 to 4mm in diameter on the lungs and air sacs (Figure 1). In direct examination active form of mycelia were seen by DMSO and KOH. The mycelia were visible with routine hematoxylin and eosin as well as with the periodic acid-schiff (PAS) reaction with branched and septated form. (Figure 2).

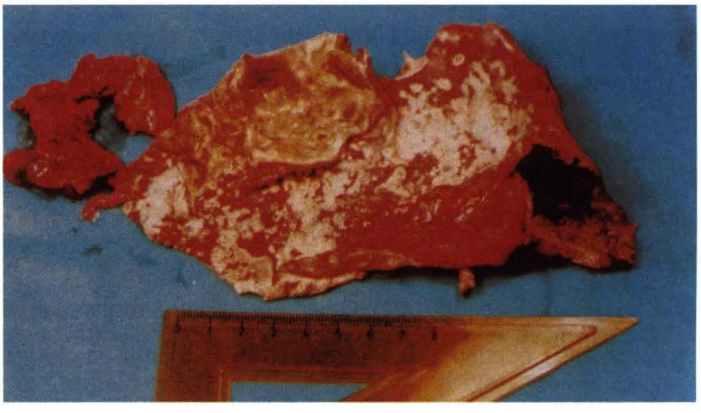

Figure 1. *White nodules of Aspergillosis on lungs and air sacs of ostriches*

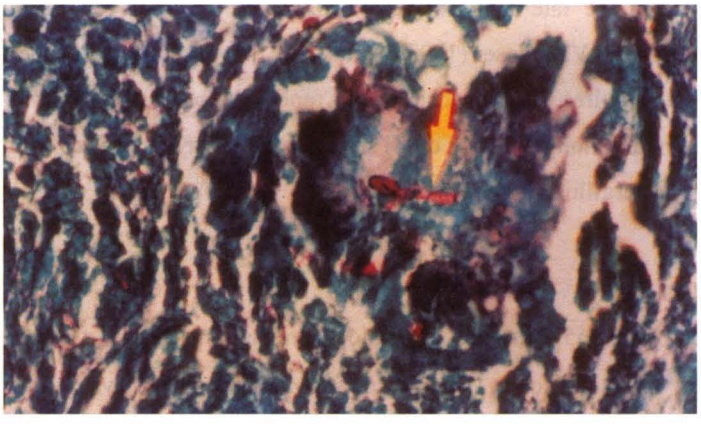

Figure 2. *Granulomatous pneumonia with mycelium of A.fumigatus (PAS) (400×)*

Microscopically many granulomatous nodules showed central necrosis with mycelia, mononuclear cells, giant cells and fibrosis. The nodules were cultured in Sabouraud dextrose agar (Merck) and incubated at 37°C for 48-72h and the causative agent media was diagnosed as *A.fumigatus* (Figures 3 and 4).

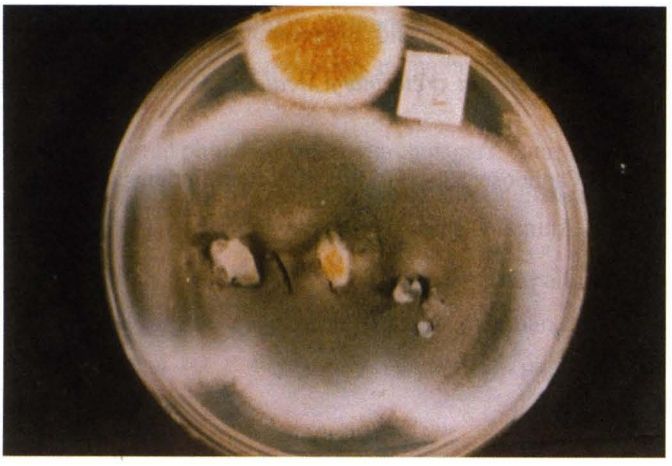

Figure 3. *Colony of A. fumigatus in Sabouraud culture media*

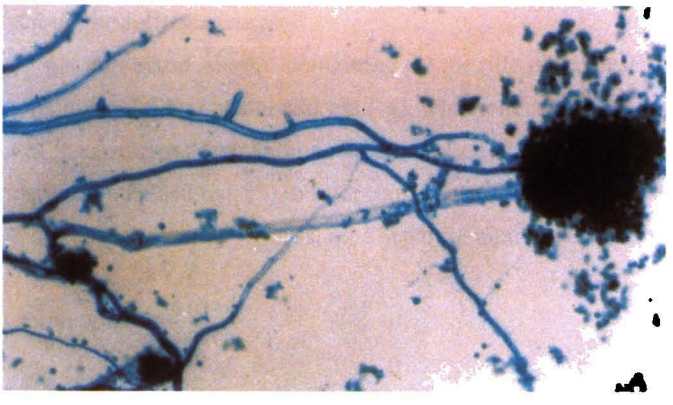

Figure 4. *Mycelia of A. fumigatus (400×)*

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