

## Aspergillosis and Gastric Impaction in an Ostrich

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**Abstract:** It is inevitable to encounter many diseases of ostriches in Turkey as a consequence of the rapid expansion of ostrich farming and flocks in this country.

*Aspergillus fumigatus* was isolated from the lungs and air sacs of a 3-month-old, male, blue-neck ostrich. In postmortem examination, the ingestion of a large amount of gravel was noted. The accumulated gravel had led to an occlusion of the passage between the proventriculus and gizzard. This work appears to be the first report of aspergillosis and gastric impaction developing together and leading to death in an ostrich.

**Key Words:** Ostrich, aspergillosis, gastric impaction

### Bir Devekuşunda Aspergillosiz ve Mide Tıkanıklığı

**Özet:** Türkiye’de devekuşu çiftliklerinin ve yetiştiriciliğinin hızla artmasına bağlı olarak bu türde görülen bir çok hastalıklarla karşılaşmak kaçınılmaz olmaktadır.

Mavi boyunlu, 3 aylık, erkek devekuşunun akciğer ve hava keselerinden *Aspergillus fumigatus* izole edildi. Nekropside midede fazla miktarda çakıtaşı tespit edildi. Tespit edilen taşların ön mideden taşılığa geçişi engellediği görüldü. Bu çalışma, bir deve kuşunda mide tıkanıklığı ve aspergillosis’in birlikte seyredip ölümle sonuçlandığı ilk olgu bildirimidir.

**Anahtar Sözcükler:** Devekuşu, aspergillosis, mide tıkanıklık

### Introduction

The way in which the ostrich industry of Turkey has developed during recent years has increased the exposure of this bird to a variety of management and environmental conditions. It is inevitable that when dealing with these birds farmers and veterinarians encounter many diseases of this species for the first time.

Respiratory mycosis is a problem in young ostriches, particularly when they suffer from debilitating conditions (e.g., malnutrition) (1). At this stage, the immune system can be severely compromised and secondary infections often develop (1). Aspergillosis generally occurs secondary to stress, immunosuppression, prolonged antibacterial therapy, or overwhelming exposure to the

organism (2,3). Aspergillosis is notorious for being the major cause of mortality in ostrich farms where the ostrich industry is well developed (4). There are major difficulties in the diagnosis and treatment of individual ostriches. There are no reports of successful treatment in ostriches (1,2). If the bird has been exposed to an improper diet, the eaten material may cause an impaction in the gut. Grit feeding can sometimes cause impactions (1,5). Gut impaction is usually a secondary problem as a result of some other initiating problems (5).

### Case History

A 3-month-old, male blue-neck ostrich was observed to be losing body condition. Clinical examination by the

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farm veterinarian failed to reveal the underlying problem. In its history, it was reported that the chick was pecking the food but was also losing weight and had recently stopped pecking. Several antibiotic regimens were administered but none of them caused any improvement. The bird was found dead and was brought to the clinics of the Veterinary Faculty of Ankara University for diagnostic evaluation.

### Results and Discussion

Postmortem examination showed typical fungal lesions in the air sacs (Figure). It was consistent with severe mycotic air sacculitis and pneumonitis. A scraping was taken and cultured on Sabouraud dextrose agar (SDA) medium and many hyphae were observed in direct microscopy of the scraping. *Aspergillus fumigatus* was isolated from the lungs and air sacs. However, the



Figure. *Aspergillus fumigatus* in air sacs of a 3-month-old, blue-neck ostrich.

presence of fungal hyphae was not observed in histopathological preparations. It has been reported that histological evidence of fungal infection was also negative in one study (6).

In postmortem examination, ingestion of gravel was also noted. A large amount of accumulated gravel had led to an occlusion of the passage between the proventriculus and gizzard. In our case, the stomach was full of only gravel and shell grit. This was also reported as a predisposing factor and can cause impaction (1). In a study two *Aspergillus* and three impaction cases were observed in postmortem examinations of 121 ostriches (7).

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The findings of this report show that Aspergillosis and gastric impaction may cause death in ostrich chicks. To our knowledge, this appears to be the first report of aspergillosis and gastric impaction occurring together, and resulting in death in an ostrich. Since the popularity of ostriches is rising fast in Turkey, further studies and reports regarding the diseases related to these birds are needed.

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