



FELINE TUBERCULOSIS CAUSED BY *MYCOBACTERIUM BOVIS* CASE STUDY

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Abstract:

Mycobacterium (M.) bovis is one of the member species of the *Mycobacterium tuberculosis* complex which can infect cats and is a demonstrated zoonosis. This article aims to report a case of *M. bovis* infection in a two year old male domestic cat exported from Romania to UK, emphasizing its clinical, diagnostic and therapeutic aspects. The clinical signs started three weeks after the export with dyspnoea, anorexia, submandibular lymphadenomegaly and dermal nodules. Additional radiography imaging, and IGRA test (Interferon Gamma Release Assay Test) were performed to confirm the diagnosis. Although there was a possibility of a treatment, the owners and veterinarian decided to euthanize the cat to prevent the spread of the disease. Imported or exported animals represent a reservoir of zoonotic disease putting owners and veterinarians at risk.

• Introduction

Tuberculosis (TB) in felines is a rare but significant disease with zoonotic implications, typically caused by *Mycobacterium bovis*, a member of the *Mycobacterium tuberculosis* complex. Given its zoonotic nature, *M. bovis* in domestic animals represents a public health concern. This case report highlights a confirmed diagnosis of *M. bovis* infection in a domestic cat imported from Romania to the UK, with a focus on clinical signs, diagnostic procedures, and draws attention to the importance of animal imports and exports on human health.

• Case report

A two year-old, male Sphynx cat, exported from Romania, was brought to a Veterinary Clinic from Coventry, in a very poor condition. The clinical examination revealed weight loss, respiratory distress, dyspnoea, skin nodules without ulceration, and encapsulated purulent collections, regional lymphadenopathy (Fig.1).



Fig.1.Enlarged submandibular lymph node

Thoracic radiography revealed a diffuse miliary to interstitial pulmonary pattern, consistent with granulomatous inflammation, along with hilar and mediastinal lymphadenopathy. (Fig 2). Histopathological exam identified "organised" granuloma, *M. bovis* with central necrosis,

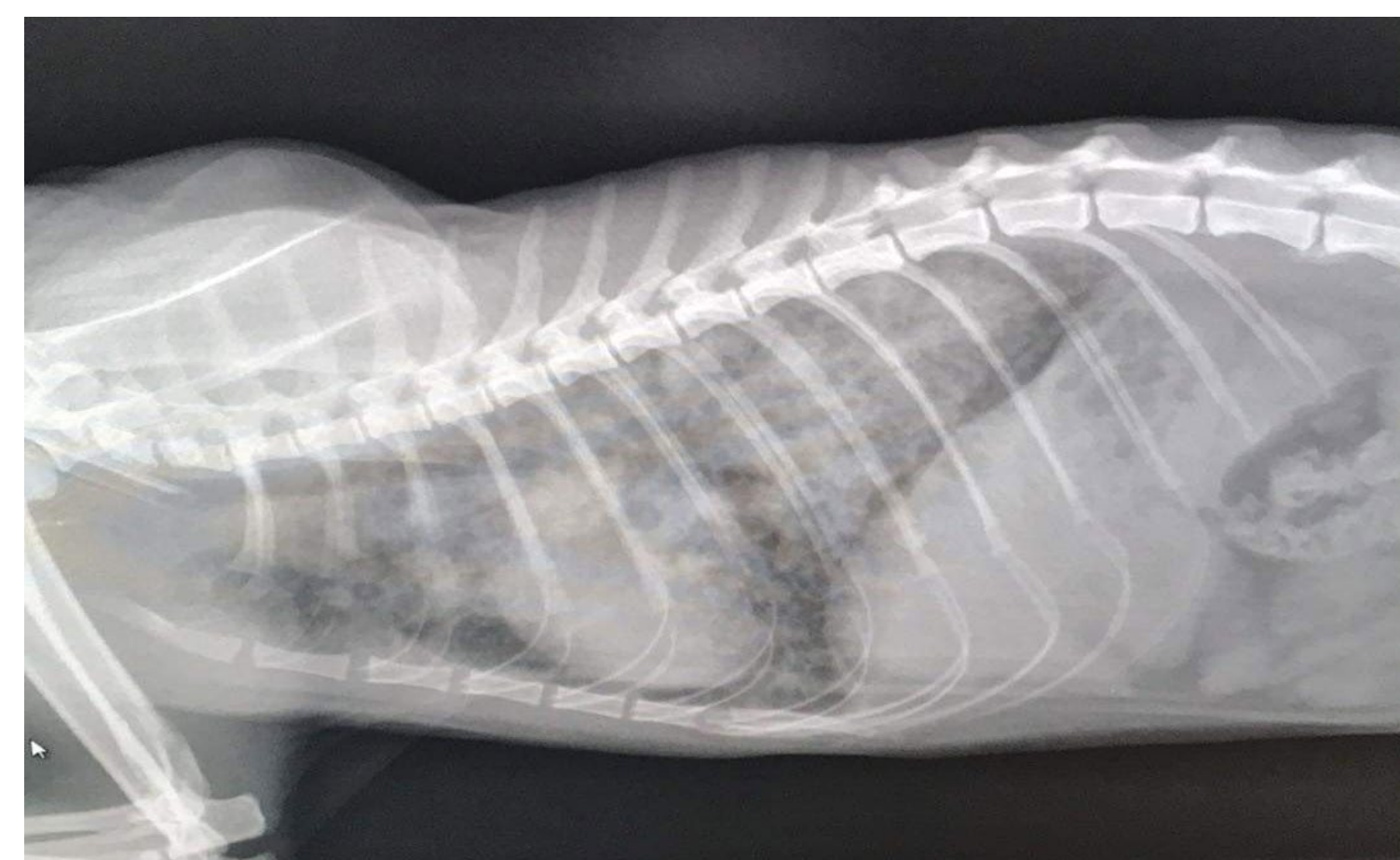


Fig.2.Enlarged submandibular lymph node

macrophage and neutrophil cell layer and incomplete fibrous encapsulation. Ziehl-Neelsen stain highlighted a marked amount of bacteria acid type bacilli acid resistant.

Through the association of clinical signs, imaging tests, cytology and IGRA test, was established the diagnosis of tuberculosis feline caused by *M. bovis*.

• Discussion

Disseminated *M. bovis* is a rare infection in cats, that typically results from ingestion of infected meat, unpasteurized milk, wild rodents or contact with contaminated material. In this case, was suspected the contamination through milk consumption, in Romania because the clinical signs appeared three weeks after arrival in the UK.

In UK, if a cat is suspected of having tuberculosis, it must be reported to the appropriate public health authorities. To protect people, it is generally recommended that affected cats be euthanized. For this reason the owners decided to euthanize the cat.

• Conclusions

The importance of detecting this disease in cat derives from the consequences of the tuberculosis itself and their potential role as reservoirs infection for human populations.