

**Feline injection site sarcomas in the United Kingdom: estimating the incidence of a rare disease**

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Feline injection site sarcomas (FISS) are clinically aggressive tumours of the cat. They are thought to be rare but are of concern to the veterinary profession because it has been suggested that they arise as a consequence of injection or vaccination. There has been no epidemiological study of this disease in the United Kingdom (UK) but 59 injection site sarcomas were reported to the Veterinary Medicines Directorate in 2007 via the passive suspected adverse reactions surveillance scheme. Incidence rates ranging from 1-10 FISS/10,000 FeLV vaccines given have been reported in North America. The purpose of this study was to establish multiple estimates of the incidence of FISS in the UK.

A prospective study was carried out throughout 2007 to identify all cases of FISS diagnosed at 4 diagnostic histopathology laboratories. Practices that routinely submit histopathology to these laboratories were invited to join the study.

A case definition was based on the histopathology features FISS that were identified in a separate study. The cases that met the case definition were used as the numerator for the incidence calculation. Different methods for obtaining denominator data were applied including vaccines sold in the UK and the number of cases submitted to the pathology services. More precise denominator information such as number of cats visiting the surgery, number of vaccines given to cats and number of microchips placed in 2007, was used for a smaller number of cases and practices.

Four hundred and seventeen practices were enrolled in the study and identified 177 cases in 2007 that met the case definition. More precise denominator information was available from 52 practices which identified 17 cases of FISS.

FISS represented 0.8% of all submissions and 4.3% of all feline submissions to the collaborating diagnostic laboratories. It was estimated that at least 1443 FISS cases could have occurred in the United Kingdom in 2007. Further incidence estimates were made with more precise denominator information.

This study demonstrates that there are more FISS occurring in the UK than are currently reported via the existing passive surveillance scheme in place. However there is still likely to be under-reporting bias in the numerator. Calculating incidence of this disease is further hampered by the lack of knowledge about the population at risk. The incidence of FISS in this study varied markedly depending on the numerator and denominator used, but the tumour can still be considered rare.