Retrospective study of pyometra at five RSPCA hospitals in the UK: 1728 cases from 2006 to 2011

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Context
Pyometra is a common, potentially life-threatening condition affecting unneutered bitches. It is estimated that up to 24 per cent of entire bitches will be affected before the age of 10. The risk of pyometra can be eliminated by ovariohysterectomy. As well as the welfare implications of this preventable condition, it provides an economic burden to dog owners and charitable veterinary organisations. The primary aim of this study was to investigate the prevalence and incidence of pyometra presentation at RSPCA hospitals and to document trends in demand for veterinary resources over the course of the economic downturn to date (2006-2011). Secondary aims were to document variations in age and breed of dogs presented with pyometra nationally and the outcomes of treatment at the Greater Manchester Animal Hospital (GMAH).

Main conclusion
There was an annual increase in canine pyometra incidence at RSPCA animal hospitals from 2006 to 2011, while there was a concurrent decrease in the uptake of elective neutering.

Approach
A retrospective cross-sectional study was used to analyse electronic records of pyometra cases at five RSPCA animal hospitals across the UK from 2006 to 2011. Data collected included date of procedure, age and breed. The female dog outpatient population was used as a control group, which included all owned female dogs (neutered and unneutered) presented to the hospitals for any reason. If a dog was re-presented during that year, only its first visit was included. Clinical notes from the GMAH were reviewed to gather information regarding surgical mortality rate and cost of pyometra treatment.

Results
Of the total female dog outpatient caseload of 78,469 animals, 1728 cases of pyometra were recorded. The overall prevalence of pyometra during the study period was 2.2 per cent. There was an annual increase in the incidence of pyometra, rising from 1.8 per cent in 2006 to 2.9 per cent in 2011, while the rate of elective ovariohysterectomy simultaneously declined from 11.7 per cent to 9.1 per cent (Fig 1). Bullmastiffs (P<0.0001), golden retrievers (P=0.001) and dogue de bordeaux (P=0.008) were over-represented in the pyometra population compared with the control group. Mean age at presentation was 7.7 years. Some breeds presented at a significantly lower age, including dogue de bordeaux (mean age 3.3 years) and bullmastiffs (mean age 5.4 years), while Yorkshire terriers (mean age 9.4 years) and border collies (mean age 10.3 years) tended to present at later ages. Surgical mortality rate was 3.2 per cent. The mean cost to the client for pyometra treatment at the GMAH was £100.65 per case; however, only 61 per cent of those costs were recovered.

Interpretation
The prevalence of pyometra reported here should be interpreted with caution due to the control population containing both unneutered and neutered bitches. Variations in prevalence between breeds may be related to breed predispositions or owner factors, such as greater proportions of unneutered bitches within certain breeds or increased likelihood of large breeds being presented to charity practice due to the greater cost of surgery. Variation in age at presentation between breeds has not been previously reported and warrants further investigation. The high rate of non-payment highlights that pet owners from areas of low income rely heavily on charitable veterinary care for the treatment of conditions where veterinary intervention is unavoidable, such as with pyometra.

Significance of findings
The reported trend of increasing annual pyometra presentation to RSPCA animal hospitals across the UK could indicate a growing problem within socioeconomically deprived areas. If charitable veterinary care were to become less available in the future, it is likely that the welfare of these animals would be compromised. In cases where owners cannot afford the cost of treating an unexpected and expensive condition such as pyometra, the result would likely be euthanasia, prolonged illness or financial loss to private practices. This study highlights the need for investigation into effective methods of owner education and responsible pet ownership, particularly in areas of low income.
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