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SHORT COMMUNICATION

Clinical management of lipomas in dogs under primary care in the UK

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Abstract

Lipomas are relatively common and biologically benign masses of mesenchymal origin consisting of adipocytes. This study reports benchmark data on the clinical management and outcomes of lipomas in dogs under UK primary veterinary care. The study used a cross-sectional analysis of cohort clinical data from dogs that were under veterinary care at practices participating within VetCompass from January 1, 2013 to December 31, 2013. Descriptive and analytic statistics characterised the clinical management and outcomes following presumptive lipoma diagnosis. The study included 2765 lipoma cases from 384 284 dogs under UK veterinary care during 2013. Diagnostics included fine needle aspirate in 1119 (40.5 per cent) cases, biopsy in 215 (7.8 per cent) cases and diagnostic imaging in 11 (0.4 per cent) cases. Overall, 525 (19.0 per cent) cases were managed surgically. Of the surgical cases, 307 (58.5 per cent) solely had mass removal whilst 218 (41.5 per cent) included another procedure during the same surgical episode. A surgical drain was placed during surgery in 90 (17.1 per cent) cases. Wound breakdown was reported in 14 (2.7 per cent) surgical procedures. Wound infection followed surgery in 11 (2.1 per cent) dogs. The findings provide veterinarians with an evidence base that benchmarks how lipoma cases are currently managed in the UK, but these results do not necessarily reflect optimal management or best practice.

Lipomas are benign masses of mesenchymal origin consisting of adipocytes. They are often asymptomatic but can be highly alarming to owners.[1] A presumptive diagnosis of lipoma is most often made via fine needle aspiration (FNA).[2 3] Monitoring by repeated examination is frequently recommended for slow-growing masses, but surgical excision might be advised for masses that are large in size, fast growing or located in problematic areas that may, for example, interfere with mobility.[2 3] A recent VetCompass study on lipomas reported a one-year prevalence of 1.94 per cent.[4] Certain breeds (including Weimaraner, dobermann and German pointer), neutered status, increasing adult bodyweight and advancing age were associated with increasing odds of developing a lipoma. However, published evidence on the clinical management and outcomes of lipoma remains limited. Royal College of Veterinary Surgeons (RCVS) Knowledge Quality Improvement promotes 'gathering real information from real teams' to develop realistic benchmarks and find practical opportunities to continuously improve clinical outcomes.[5] This study aimed to meet the informational needs identified by RCVS Knowledge Quality Improvement on the clinical management and outcomes of lipoma in dogs under primary veterinary care in the UK in order to assist primary care practitioners in clinical audit and benchmarking.[6]

This study was an extension of the earlier lipoma study described above.[4] In summary, the current study used a cross-sectional analysis of cohort clinical data from dogs attending VetCompass practices. The sampling frame included dogs under veterinary care from January 1, 2013 to December 31, 2013. Case inclusion criteria required that a final diagnosis of lipoma (or synonym including fatty mass/lump) was recorded in the electronic patient record for a mass at any body location that was present during 2013. We accepted clinical diagnosis as a typical method of diagnosis. Patient demographic, diagnostic, management and outcome data were extracted. Descriptive statistics characterised the clinical management, and outcomes following

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Table 1 Frequency of first recorded location in the EPR for a lipoma in dogs (n=2765) attending primary care veterinary practices in the UK participating in the VetCompass programme from January 1, 2013 to December 31, 2013

First recorded location	Frequency (per cent)	Overall frequency (per cent) adjusted to exclude lipomas with no recorded location
Ventrum	775 (28.0)	32.1
Lateral thorax	392 (14.2)	16.2
Flank	335 (12.1)	13.9
Axilla	262 (9.5)	10.9
Hindlimb	162 (5.9)	6.7
Forelimb	158 (5.7)	6.5
Neck	120 (4.3)	5.0
Dorsum	88 (3.2)	3.6
Groin	88 (3.2)	3.6
Perineum	21 (0.8)	0.9
Head	12 (0.4)	0.5
No location recorded	352 (12.7)	

EPR, electronic patient record.

lipoma diagnosis and were generated for surgical and non-surgical cases. Normality of continuous variables was assessed graphically. Independent samples t-test, Mann-Whitney U test, chi-squared test and Fisher's exact test were used as statistically appropriate for general comparison between surgical cases and non-surgical cases.[7]

The study population comprised 384 284 dogs under veterinary care in the UK during 2013. Of 8437 candidate cases identified, 3504 (36.5 per cent) were manually checked to confirm 2765 lipoma cases.[4] The mean age at lipoma diagnosis overall was 9.0 years (SD 2.7 years). Overall, 1606/2765 (58.1 per cent) cases had a single lipoma, while 1159 (41.9 per cent) had more than one lipoma recorded. The most commonly recorded locations were ventrum (775; 32.1 per cent), lateral thorax (392; 16.2 per cent) and flank (335; 13.9 per cent) (table 1).

Locomotion was reported as affected by lipoma in 38 (1.4 per cent) cases, with suspected pain/discomfort reported in 13 (0.5 per cent) cases. Diagnostics included FNA in 1119 (40.5 per cent) cases, biopsy in 215 (7.8 per cent) cases and diagnostic imaging in 11 (0.4 per cent) cases. The remaining 1420 (51.4 per cent) cases did not have any specific diagnostics recorded. The clinical notes included a recommendation to monitor progress of the lipoma in 1494 (54.0 per cent) cases, 9 (0.3 per cent) cases were referred for further management of lipoma and there was no further recommendation recorded in 737 (26.7 per cent) cases.

Of the 2765 lipoma cases, 525 (19.0 per cent) were surgically managed during the one-year study period. Mean age at first lipoma diagnosis was lower in cases that subsequently underwent surgery (7.7 years, SD 2.2 years) than in non-surgical cases (9.3 years, SD 2.7 years) (P<0.001). Locomotion was considered affected by the lipoma mass in a higher proportion of surgical cases (16; 3.0 per cent) compared with non-surgical cases (22; 1.0 per cent) (P=0.001). Lipoma was thought to be causing pain or discomfort in a higher proportion of surgical cases (6; 1.1 per cent) compared with non-surgical cases (7; 0.3 per cent) (P=0.023). More surgical cases (5; 1.0 per cent) had diagnostic imaging to support diagnosis compared with non-surgical cases (6; 0.3 per cent) (P=0.041). FNA to support lipoma diagnosis was not associated with whether surgery was performed. Of the 525 surgical cases, 307 (58.5 per cent) solely underwent mass removal, while 218 (41.5 per cent) included another procedure during the same surgical episode. A surgical drain was placed during the original surgery in 90 (17.1 per cent) surgical cases. Of those drains placed, 2 (2.2 per cent) were active and 88 (97.8 per cent) were passive. Wound breakdown was reported for 14 (2.7 per cent) surgical procedures overall. Surgical wound infection was reported in 11 (2.1 per cent) dogs following surgery. Of those procedures with wound breakdown, 4 (28.6 per cent) had surgical wound infection reported. Seroma as a complication of lipoma excision was reported in 41 (7.8 per cent) surgical cases overall.

During the period of available data, 725 (26.2 per cent) dogs died from any cause. Whether the dog was euthanased or died naturally was not recorded in 30 (4.1 per cent) cases. Of those with information recorded, 664/695 (95.5 per cent) were euthanased and 31 (4.5 per cent) died naturally. Lipoma was reported to contribute to the euthanasia/death in 13/725 (1.8 per cent) cases.

The study presents useful clinical information regarding the current management strategies of lipoma cases in primary care practices in the UK and identifies differences in the patient signalment, presenting clinical signs and diagnostic procedures performed for dogs undergoing surgery versus those receiving non-surgical management. Problems with locomotion and pain were reported in a minority of cases. Although the most common diagnostic test performed, FNA was performed in only 40.5 per cent of cases, suggesting a presumptive diagnosis of lipoma was most commonly made based on the history and physical examination alone. FNA in itself is not definitive, and attempting to attain a diagnosis by incisional biopsy ahead of performing treatment is the recommended approach. The findings reflect current diagnostic and clinical management norms that are typical across a cohort of primary care centres. These norms are often dictated by factors including financial constraints, patient age and previous history of lipoma, practice protocols, personal preferences and client expectations. As such, the current study accepted clinical diagnosis of lipoma in the absence of histopathology although confirmation based on laboratory testing would be the ideal. Almost one in five dogs had surgery to remove lipoma, often combined with another procedure performed while under general anaesthesia. Wound breakdown and surgical wound infection were uncommon. Lipoma

contributed to death in a minority of cases. These results suggest that for the majority of dogs with non-infiltrating lipomas managed in primary care practice, lipomas are not often debilitating and surgical removal has low postsurgical complications.

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Data availability statement Data are available on reasonable request.

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