11 years (range 6–14 years). Breeds included Labrador (6), Golden Retriever (3), Cocker Spaniel (2) and one Irish Setter, Miniature Schnauzer, Brittany Spaniel, Border Terrier, Weimaraner, Border Collie and Staffordshire Bull Terrier, with 3 cross breeds. Eighteen tumors were oral (lip (8), gingiva (3), mandible (2), cheek (2), tongue (1) and not specified (2)), one ocular, one cutaneous and one perianal tumour. According to the WHO classification, seven dogs had stage 1 disease, ten were stage 2 and three were stage 3 (one unknown). Immediate adverse reactions were not reported.

At data collection eight dogs were alive, seven had died of melanoma-related causes, two of unrelated disease and three of unknown cause (one lost follow-up). Ten dogs received courses of four vaccines, one dog received three vaccines

only. Seven dogs received one follow-up vaccine after 6 months, two dogs two and one dog four six monthly vaccines.

The overall MST of all 19 dogs treated with surgery and follow-up vaccination was 485 days. One year survival was 86% for stage 1, 55% for stage 2 and 0% for stage 3. The MST was 692 days for stage 1, 493 days for stage 2 and 205 days for stage 3 disease.

CONCLUSION

These results suggest a moderate benefit to treating dogs with malignant melanoma with the Oncept® melanoma vaccine following surgery compared to previously reported MSTs for surgery or radiotherapy alone.

Identifying key proteoglycans between two dog breeds with a differing predisposition to cranial cruciate ligament rupture

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Cranial cruciate ligament disease (CCLD) and rupture is one of the most common orthopaedic conditions to affect dogs leading to stifle joint osteoarthritis. CCLD usually with ligament rupture occurs following a minor or non-contact injury. CCLD. Epidemiological studies have shown that certain dog breeds are at different risk to CCLD with the Labrador retriever and Rottweiler having a high risk, the Staffordshire bull terrier a moderate risk, and the greyhound a low risk to ligament rupture. Changes in cranial cruciate ligament (CCL) extracellular matrix molecules such as collagen fibril diameter and glycosaminoglycans content have been identified in dog breeds with a high risk of CCLD. Proteoglycans (PGs) are macromolecules consisting of a glycosaminoglycan chain and core protein. Small leucine rich proteoglycans (SLRPs) are an important family which regulate collagen

fibrillogenesis. Decorin, biglycan and fibromodulin are all members of the SLRP family. Aggrecan, on the other hand, is a member of the large aggregating PGs that functions to withstand compressive forces. Our aim was to measure the protein content and gene expression of PGs with western blot analysis, immunohistochemistry, and quantitative RT-PCR to identify differences in PGs and their metabolites between breeds that are at a moderate (Staffordshire bull terrier) and low (Greyhound) in risk to CCLD. We hypothesise that PGs are key components of the CCL extracellular matrix and therefore may play a role in CCLD. CCLs were obtained from both Staffordshire bull terrier (n=5) and Greyhounds (n=5) euthanised for purposes not related to this study and all dogs had grossly normal CCLs and stifle joints. Gene expression showed aggrecan (p=0.0003) and fibromodulin (p=0.03) to be significantly higher in Staffordshire bull terrier CCLs compared to those of Greyhound, whilst decorin (p=0.03) and ADAMTS4 (p=0.04) (PG metabolite) were significantly higher in greyhound CCLs compared to those of Staffordshire bull terriers, and protein expression by Western blotting has supported these findings. The role of aggrecan and fibromodulin in Staffordshire bull terrier might be due to increased compression in CCL eventually leading to pathology and rupture. Decorin may have a role in maintaining collagen fibril size and strength in greyhound, and ADAMTS4 indicates a higher metabolism of its CCLs resulting in protection against degeneration. Our findings indicate that PGs play different roles in the normal homeostasis of the canine CCL in dogs with a different susceptibility to CCLD.

Is it worth the risk? The attitudes of owners and veterinary professionals to the use of non-steroidal anti-inflammatory drugs (NSAIDs) in dogs with osteoarthritis

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Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used in the treatment of canine osteoarthritis. Whilst extensive research has been performed assessing their efficacy and safety, concerns remain about the risks associated with administering NSAIDs to older animals. The attitudes of veterinary surgeons and owners to using NSAIDs in an older population of dogs have not previously been reported. The aim of this study was to characterise the attitudes towards, and use of, NSAIDs in dogs with osteoarthritis by veterinary surgeons, veterinary nurses and owners in England and Scotland.

During 2014, data were gathered through semi-structured interviews with owners of dogs with osteoarthritis and focus groups with veterinary professionals (veterinary sur-

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geons and veterinary nurses). Thirty-two interviews with owners recruited from 17 practices in England and Scotland captured experiences of treating 35 osteoarthritic dogs. Five focus groups were conducted in four veterinary practices, four with veterinary surgeons and one with veterinary nurses. A purposive sampling methodology was used to capture a wide range of opinions. Interviews and focus groups were audio-recorded then transcribed verbatim. Thematic analysis was performed to identify emergent themes.

Three themes relevant to the use of NSAIDs were identified: awareness of potential risks; recognition of adverse events; and the influence of risk perception on use of NSAIDs. Almost all owners were aware of some adverse events associated NSAID administration to dogs and many expressed concern about these risks. Awareness came from sources including the internet, personal experience with human NSAIDs and their veterinary surgeon. Veterinary

professionals described it difficult to distinguish true adverse events from concurrent gastrointestinal disease and the estimated incidence of adverse events varied greatly. This contributed to concern about using NSAIDs in older dogs and a desire to use the lowest possible effective dose. Owners and veterinary professionals described many dosing and monitoring strategies intended to minimise adverse events. These included complete avoidance of NSAIDs, reduction of daily dosage, alternate day dosing and frequent blood monitoring. Many veterinary surgeons were aware that the evidence base for these strategies is poor.

This study highlights the impact of concern about adverse events on the use of NSAIDs in older dogs. Accurate data on the prevalence of adverse events associated with NSAID treatment in dogs and evidence-based strategies to minimise adverse events are urgently needed to ensure all dogs with osteoarthritis receive adequate analgesia.

A novel regenerative approach to treating canine lumbosacral disease: a role for adipose derived mesenchymal stem cells?

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Lumbosacral disease is a common condition affecting older dogs and also younger dogs, such as Border Collies, that are involved in agility work. The disease causes a variety of symptoms from back pain, hind limb weakness, reluctance to jump and ataxia to neurological deficits causing incontinence. The condition is usually progressive and management involves drug therapy (anti-inflammatories and analgesics), exercise management, weight control, and physiotherapy. Surgical options such as decompressive surgery (laminectomy) and distraction and stabilization surgeries are very invasive techniques with potential complications. A private independent veterinary practice has treated a variety of orthopaedic conditions with stem cell therapy (SCT) and laser therapy. Whilst SCT is mainly used for joint osteoarthritis cases, reports in human lumbar conditions makes this an interesting minimally invasive potential therapy for canine lumbosacral disease.

Five dogs presenting with a history of severe back pain and radiographic evidence of lumbosacral disease attending

the veterinary practice have received SCT with laser therapy in this small case series. All were being treated with a non-steroidal anti-inflammatory drug and some were also receiving one or more analgesics. Subcutaneous adipose tissue was harvested from each dog under a short general anaesthetic and blood taken for cell culture. Cell Therapy Sciences Ltd isolated the adult adipose-derived mesenchymal stem cells from the tissue and culture-expanded them. These were then shipped in sterile vials cryogenically frozen in the dog's own serum.

The autologous stem cell treatment was given intravenously and by epidural injection at the lumbosacral junction under sedation. Immediately following implantation, the lumbosacral region was targeted with laser therapy using a class IV laser with appropriate settings for each animal. The laser treatment was repeated three times a week for two weeks and then monthly for three months.

Efficacy of treatment was monitored by veterinary physical examination, pet-owner assessment using validated questionnaires (canine brief pain inventory (CBPI) and Liverpool osteoarthritis in dogs (LOAD) questionnaire) and repeat radiographs at three and six months after treatment where possible.

All treated dogs became pain free at the lumbosacral region, were able to come off all analgesics and regained full activity. The CBPI and LOAD scores were significantly reduced in all treated dogs.

The author concludes that SCT combined with laser therapy is a very effective, minimally invasive, drug free treatment option for lumbosacral disease and warrants further investigation.

Patellar luxation in dogs attending primary-care practice in England

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Patellar luxation (PL) is a common disorder in dogs and has welfare implications including degenerative joint disease and pain. This study aimed to identify the prevalence and risk factors for PL in dogs attending primary-care practice in England and to report on clinical management.

The study included all dogs in the VetCompass Programme from September 1st, 2009 to August 31st, 2014. The clinical notes were searched using PL-suggestive terms to identify candidate PL cases and a subset of these were

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