



## **Flatcoated Retriever Society**

### **AGM Health Report March 2019**

Madam Patron, Mr President, Mr Chairman, ladies and gentlemen.

#### **AHT Cancer research project**

Oncology researchers at the AHT have informed us that they would like to undertake a pilot project to look at Micro RNA expression in Histiocytic Sarcomas in Flatcoated Retrievers. The research will be a collaborative project in association with Jane Dobson and her team at Cambridge University. This is an exciting project and will hopefully result in the development of tests to aid earlier diagnosis of Histiocytic Sarcoma and therefore improved treatment options for Flatcoats with the disease. The Flatcoated Retriever Society's General Committee felt that this work warrants our support and have therefore approved a donation of £9250 to provide the funding required to instigate this research project. The funding has been donated jointly from three sources, the Brenda Phillips Memorial Health fund, the Shirley Radburn fund and the remaining third has been kindly donated by the FCRS Rescue, Rehousing and Welfare Scheme. Further details of the project will be made available on the 'Cancer Research' section of the Society's website health pages as we receive them from the AHT. An outline summary follows:

Flat-coated retriever histiocytic sarcoma research- Aims:

1. Test if histiocytic sarcoma-associated microRNA biomarkers previously shown to be present in histiocytic sarcomas can be consistently measured in biopsies of suspected histiocytic sarcomas and used for the unambiguous diagnosis of the cancer
2. Identify if the histiocytic sarcoma-associated microRNA biomarkers are found in the blood of flat-coated retrievers affected by histiocytic sarcoma (and absent from the blood of unaffected dogs)

MicroRNA levels within histiocytic sarcomas from flat-coated retrievers have been investigated by the University of Cambridge in a research study, and there appears to be a specific set of microRNAs whose levels are altered in histiocytic sarcomas compared to normal tissue and other tumour types. The study of microRNAs is a new and exciting field within cancer research. For many human cancers there is abnormal microRNA expression found within tumours that are completely specific to those tumours. The microRNAs can even be found within the blood of people affected by these tumours, meaning that the presence of a tumour could potentially be diagnosed by a simple blood test.

The first step towards the development of a blood test to diagnose histiocytic sarcoma in flat-coated retrievers is to test if the set of microRNAs associated with histiocytic sarcoma in the original research study can be measured in a new, but existing collection of histiocytic sarcoma biopsies, to prove that the microRNAs can be used for the unambiguous diagnosis of the cancer.

The second stage of the project will then investigate if the microRNAs associated with histiocytic sarcoma are detectable in the blood of affected dogs. If the 'histiocytic sarcoma microRNA signature' is found in the blood, this could potentially be identified via a simple blood test. This would mean that blood of lame

flat-coated retrievers could be tested for the presence of histiocytic sarcoma; if this came back 'positive', the dogs could then have an MRI scan to enable earlier identification of the tumours, hopefully at a stage where treatment is more successful. This could have wide impact on the breed in terms of improved management following this devastating diagnosis. It would also potentially allow for a much more simple and rapid diagnosis for dogs who are affected by tumours that are more easily removed, in order to make treatment decisions according to the tumour type.'

### **Animal Health Trust (AHT) Glaucoma project update**

The Glaucoma project findings to date have indicated that PLD and glaucoma are complex conditions, and as such investigation into the genetic basis of these conditions is proving time consuming. Flatcoated Retriever specific research has been placed on hold at present whilst Cathryn Mellersh and her team further investigates the genome of the Bassett Hound, another breed predisposed to Glaucoma. In addition, the team at the AHT has secured a grant from The Dogs Trust to fund a research post as part of a project to investigate further the mode of inheritance of a range of inherited ocular conditions. The team would be pleased to receive DNA samples from any Flatcoat diagnosed with an inherited condition. DNA sample kits can be obtained from Liz Branscombe BHC, contact details on the FCRS website: <https://www.flatcoated-retriever-society.org/health>

In addition, if members have already submitted DNA for banking please update the AHT with information about any significant changes in health status or cause of death. Health status update forms are available via the DNA research page on the Society website:

<https://www.flatcoated-retriever-society.org/images/Update%20Form%20H%202016.pdf>

### **Cambridge University report from Dr Jane Dobson (incorporating Cause of Death report)**

The cause of Death Register was originally designed and built by Dr Mark Holmes using a Filemaker data base which was located on an Apple Mac. Due to increasing problems with access and support our IT Department has been migrating databases away from Filemaker and onto more current servers.

Hence in June 2018 the Cause of Death register was rebuilt in a Qualtrics format. Since this time we have received 44 entries, 23 Female and 21 Male. The Male age mean is 8.71 years with a range of 4-13 years. The Female age mean is 8.69 years with a range of 2-14 years.

The main cause of death reported is 'Tumour or Cancer Related' = 33 cases, 'Old age' accounted for 3 deaths, trauma for 2, and one each for heart disease, infections disease, kidney disease, liver disease, other and unknown.

Tumour types were given for 28 entries:

<b>Tumour type</b>	<b>number</b>
Histiocytic sarcoma	8
Haemangiosarcoma	6
Leukaemia	4
Chondrosarcoma	2
Carcinoma, not specified	3
Neoplasia, not specified	2
Melanoma	2
Lymphoma	1
Mast cell tumour	1
Osteosarcoma	1
Soft tissue sarcoma	1

### **Other Activities at Cambridge University:**

Andrea Mosca (Resident in Medical Oncology) presented a Clinical Research Poster at the European Society of Oncology (ESVONC) meeting in Gran Canaria in May 2018, detailing the findings of the Cause of Death Register. A copy of the poster will be made available on the Society website.

Chiara Talamonti was awarded an MPhil from the University of Cambridge for her dissertation 'Evaluation of the microenvironment and immune function in histiocytic sarcoma, a tumour of dendritic cells'. The project confirmed that the lymphocytes infiltrating histiocytic sarcomas are regulatory T cells and identified a possible role for the Programmed Death Ligand 1 (PD-L1) pathway in allowing Histiocytic sarcoma to evade the body's immune system.

#### **Future Directions**

We are looking forwards to starting a collaborative study on microRNA expression in Histiocytic sarcoma in 2019 with David Sargan (University of Cambridge) and Anna Hollis & Mike Starkey (Animal Health Trust).

### **Group Study**

The Group Study is now in its 9<sup>th</sup> year, thirteen of the original cohort of dogs still remain in the study group. In total, owners of 68 dogs are actively participating in the study with 6 additional dogs added in 2018.

### **Breed Health and Conservation Plan (BHCP) update**

This project was launched by the Kennel Club in September 2016, it is hoped that this resource will aid breeders and breed clubs in making balanced breeding decisions for the future health of the breed. A plan was developed for the Flatcoated Retriever during 2018 and has taken a variety of factors into consideration such as known inherited conditions, any conformational concerns and population genetics.

The BHCP development was led, on behalf of The Kennel Club, by Dr Katy Evans, a veterinary surgeon with a MSc in Veterinary Epidemiology and a PhD in Quantitative Genetics. Katy carried out a thorough literature review and compiled a detailed evidence base document for the Flatcoated Retriever which lists global, peer reviewed breed specific health data not just that relating to the UK population. The Kennel Club Breed Health Coordinator, Liz Branscombe, and breed health representatives from the breed organisations (The Flatcoated Retriever Society, The Flatcoated Retriever Club of Scotland, The Northern England Flatcoated Retriever Association and the Southern Flatcoated Retriever Club) have had input in the discussion to prioritise and identify health concerns.

The plan has been finalised and is now available to view along with a summary of 'actions' on the Society website. The breed representatives will meet with the KC health team later in the year to review progress regarding our 'action points'

### **BVA Eye Scheme**

Subsidised Gonioscopy testing of Society members' Flatcoats 8yrs and older

The British Veterinary Association (BVA) advise that gonioscopy screening for Pectinate Ligament Abnormality (PLA) be carried out every three years. As evidence has shown that PLA can progress with age in some dogsthe Flatcoated Retriever Society will support the re-testing of older dogs by offering to subsidise the gonioscopy fee. Members can claim a reimbursement of £20 for gonioscopy examination of their Flatcoats aged 8 years and over.

To claim the reimbursement please send a completed claim form (available on the Society website) and a copy of the BVA examination form to Liz Branscombe Breed Health Coordinator.

Grading for PLA at Gonioscopy examination

All Flatcoats should receive a PLA grade (0-3) following gonioscopy examination, BVA Eye Panellists should be using a certificate which has a section for a grade to be completed. Please ask for a grade to be written on your certificate if this is not automatically done.

### **Health initiatives for 2019/20**

Health Survey

The Society has previously conducted two breed health surveys (2006 and 2011) In addition, the KC carried out breed health surveys in 2004 and 2014; we will be organising another breed health survey during the next year. It is hoped that this will be an online survey (with an option to complete a paper-based survey if preferred)

Health seminar

We are also planning another health seminar day within the next 18 months- ideas and suggestions for topics are welcomed.

### **Health reporting**

Please feel free to contact any member of the Health Sub-committee with health enquiries, Liz Branscombe, Jane Alexander, Tamsin Swain, Victoria Goldberg and Tracey Gale (who joined the committee recently), contact details are on the Society website. We continue to collect health data on any diagnosed health conditions via health report forms. It is important to complete the forms as this gives your consent for us to save and use the information to inform future research. We hope to have an 'on-line' health reporting function available via the website in the near future.

Thank you to everyone who has taken the time to send reports and contact us with health information during the last year.

This concludes my annual health report.

Liz Branscombe DipAVN(Surgical)RVN

Breed Health Co-ordinator

March 2019