



AHT Flatcoated retriever Histiocytic Sarcoma research project

Oncology researchers at the AHT will soon begin work on 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 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 from the research group 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.'

August 2019