

## Flatcoated Retriever Report for AGM, March 2021

Dr Jane Dobson, University of Cambridge

### Cause of Death Register

The revised Cause of Death register (rebuilt in Qualtrics format in June 2018). Now has 168 entries for 'main cause of death'.

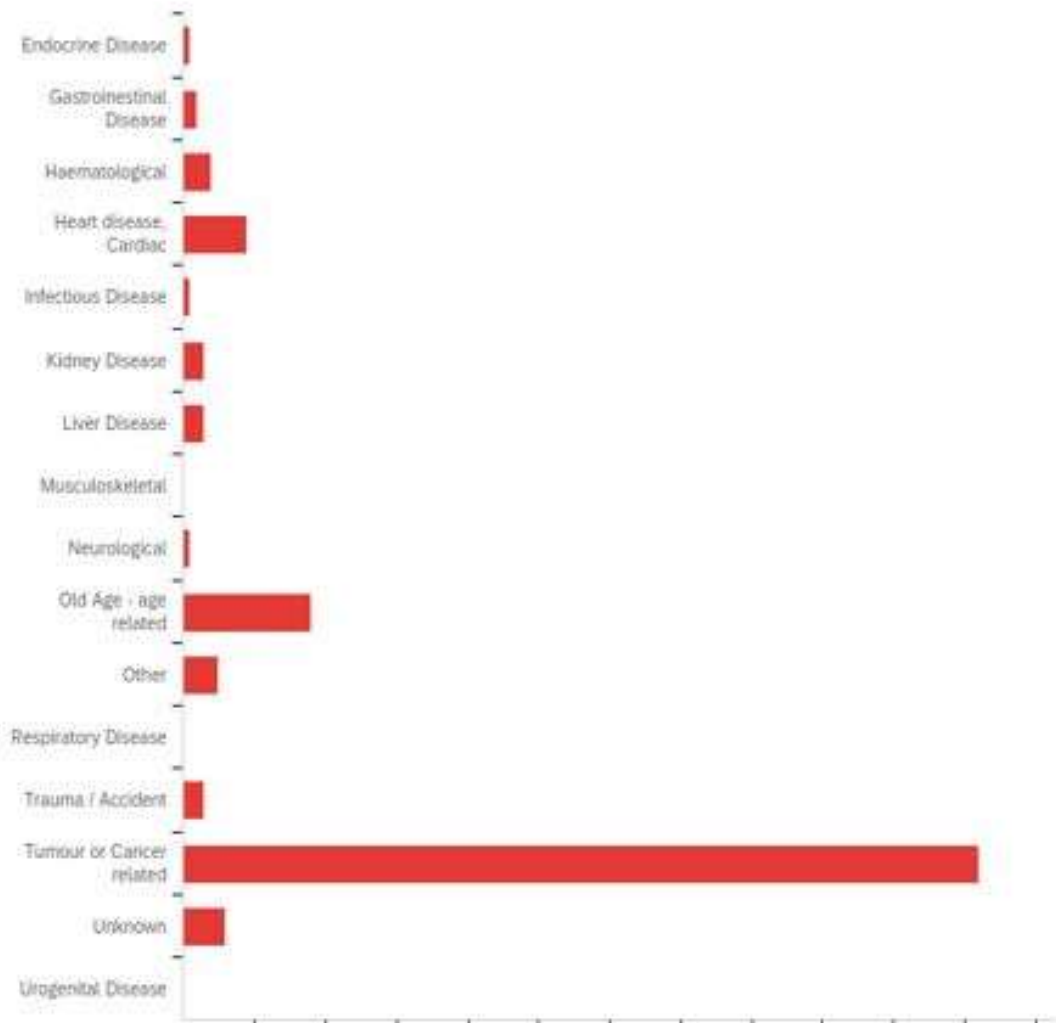
The main causes of death are shown in table 1 and figure 1.

Table 1

Answer	%	Count
Endocrine Disease	0.60%	1
Gastrointestinal Disease	1.19%	2
Haematological	2.38%	4
Heart disease, Cardiac	5.36%	9
Infectious Disease	0.60%	1
Kidney Disease	1.79%	3
Liver Disease	1.79%	3
Musculoskeletal	0.00%	0
Neurological	0.60%	1
Old Age - age related	10.71%	18
Other	2.98%	5
Respiratory Disease	0.00%	0
Trauma / Accident	1.79%	3
Tumour or Cancer related	66.67%	112
Unknown	3.57%	6
Urogenital Disease	0.00%	0
Total	100%	168

Figure 1

**Q2 - Please select the main cause of death**



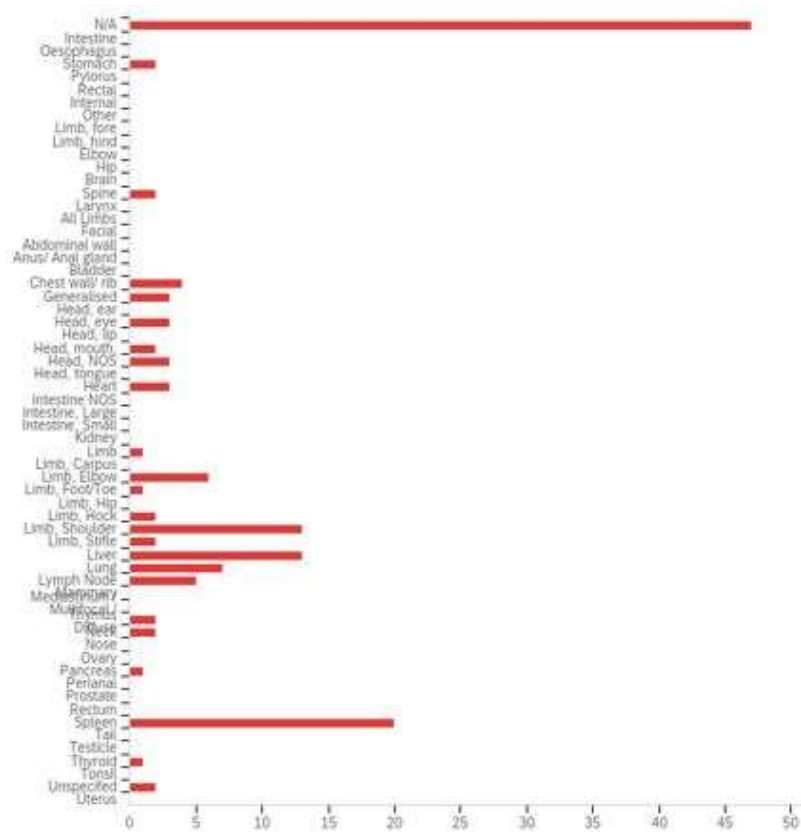
Tumour types were specified for 110 entries, tumour sites are shown in Table 2.

<b>Tumour type</b>	<b>number</b>
Histiocytoid sarcoma	30
Haemangiosarcoma	21
Leukaemia	5
Chondrosarcoma	2
Osteosarcoma	6
Carcinoma, not specified	7 + 1 adenocarcinoma

Neoplasia, not specified	6
Melanoma (malignant)	2 + 1 benign melanoma
Lymphoma	5
Mast cell tumour	7
Osteosarcoma	6
Soft tissue sarcoma	6
Sarcoma not specified	5

Figure 3 shows the site of the disease, this is not specific for tumour type although the clusters around the limbs are likely histiocytic sarcoma as are those from liver or spleen (some of these may include haemangiosarcoma)

#### Q4 - Site of Disease



#### Conclusion

Unfortunately, these results indicate that over 60% of deaths in the breed are tumour related and that histiocytic sarcoma still represents a significant problem. Which supports the need for further research into the underlying (genetic) causes and early detection of the condition.

## **Future Directions**

Our collaborative study on microRNA expression in Histiocytic sarcoma in Flatcoated Retrievers with David Sargan (University of Cambridge) and Anna Hollis & Mike Starkey (Animal Health Trust) ground to a halt with the pandemic lockdown and the sad closure of the AHT. However, happily Anna has moved to Cambridge to head up the Equine Team and we are hoping to finally get the project up and running in the next couple of months. The tumour tissues for the first part of this study have been identified and located from our large archive which was built up over many years through the Tumour Survey which was supported by Flatcoated retriever owners & breeders. We have performed analysis on initial samples which confirm that there appear to be specific microRNAs associated with histiocytic sarcoma; if this is confirmed on further samples we hope that this will enable earlier diagnosis of the disease and therefore potentially improve treatment options. We are seeking funding from external sources to complete the analysis of the new samples, which will be performed in conjunction with Cathryn Mellersh and her genetics research group, who have recently also joined Cambridge.