Pneumonia in the Irish Wolfhound-Update on survey progress Nov 2019

Angela Bodey

Purpose of the questionnaire based survey

- There is a huge wealth of experience out there that we need to tap into
- Many Wolfhounds owners recognise pneumonia as a severe, potentially life threatening condition, but we need to increase awareness, especially amongst those responsible for wolfhound healthcare
- Treatment protocols require an evidence base

Survey Participants

- 53 completed surveys returned between March 2013 and April 2014
- 72 to September 2017, 105 to October 2019
- Data here are for 53 surveys-so approximately half of all submitted
- Age range when first affected 3 months to 10 years
- 32% entire females, 13% neutered females, 43% entire males and 12% neutered males

Other conditions documented in wolfhounds with pneumonia in the survey

1. Kennel cough (infectious tracheobronchitis)
2. Laryngeal paralysis
3. Ciliary dyskinesia
4. Megoesophagus
5. Inhalation pneumonia

In a way these all come down to the same thing-material that should not be there ends up in the lungs

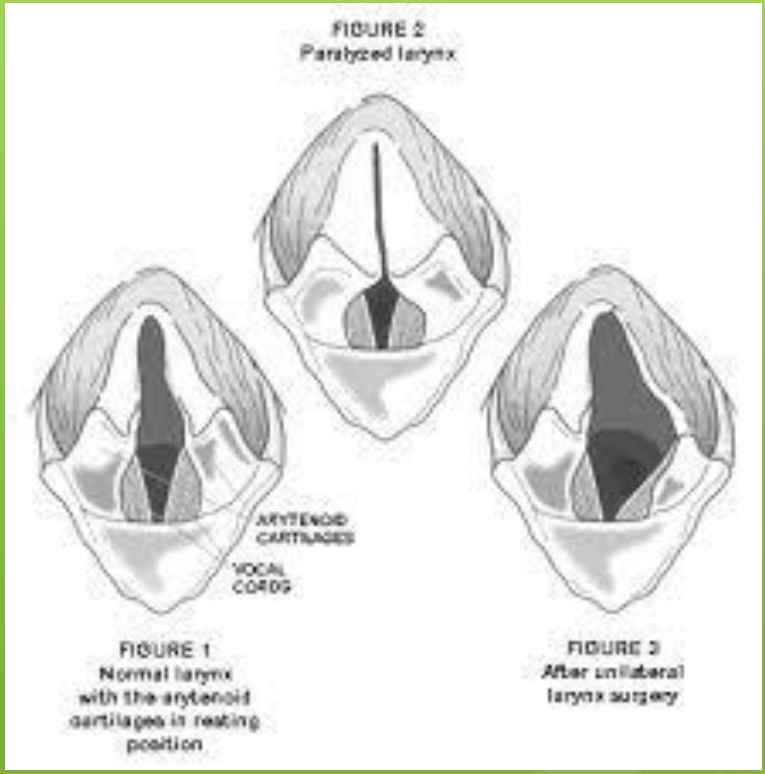
6. Heart disease > confusion of signs

Kennel Cough

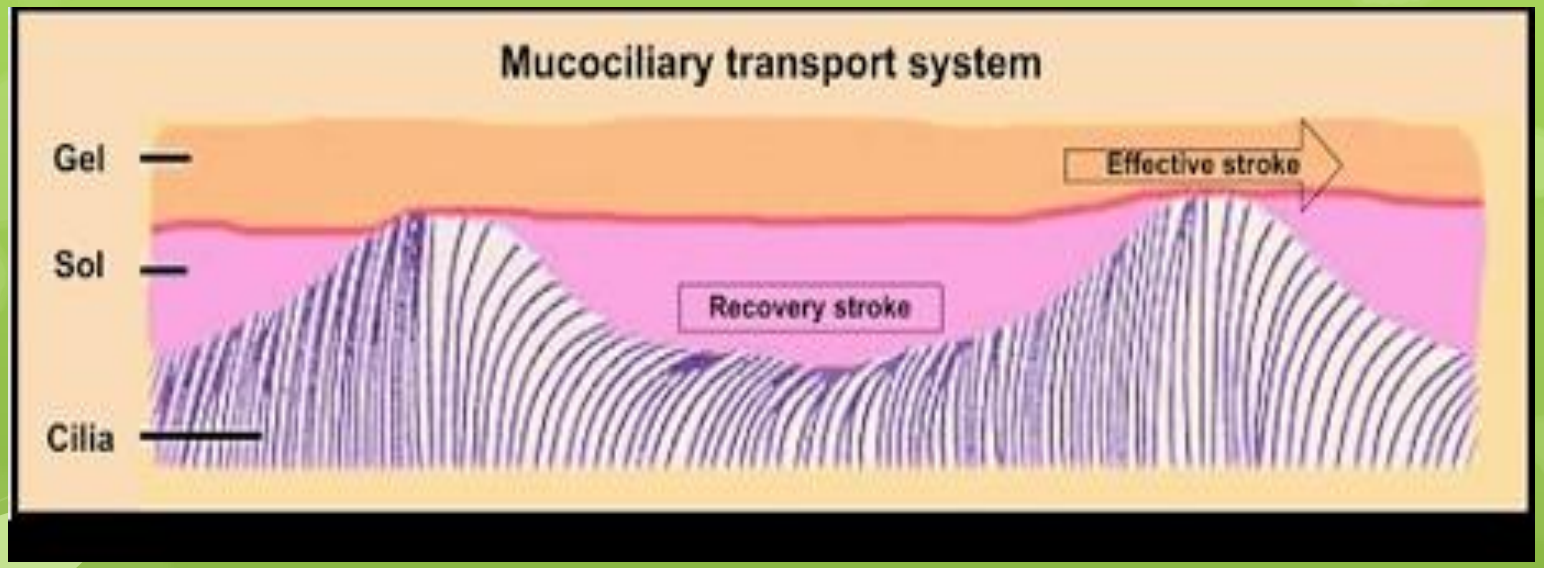
- Infectious tracheobronchitis
- Caused by parainfluenza virus and *Bordetella bronchiseptica* bacterium
- Affects all breeds-airborne droplets

Laryngeal Paralysis

- Inability to abduct the arytenoid cartilages during inspiration leading to partial airway obstruction



Ciliary dyskinesia-what do cilia do?



Lateral chest film- megoesophagus

Clinical signs

- Signs documented in the survey were many and of a range of severity
- To aid analysis of the surveys, seven frequent signs were chosen and scored 1-5 according to severity in an individual
- This then gave a numeric means to try to analyse the data in the surveys

Clinical signs 1

Nasal discharge

i.e. increased secretion from the airways-either the nose or lower down the respiratory tract that then appeared at the nose

NB previous reports of rhinitis in wolfhound

Reported in 24% of animals in the study

Serous, mucoid and mucopurulent discharge reported

Clinical signs 2

Inappetence

i.e. animals do not feel well enough the eat normally

Reported in 85% of animals in the study, to different extents

Clinical signs 3

Recumbency

Not found to be a helpful sign-

rather than a scale of 1-5, it was more like 0=absent i.e. not recumbent, or 5=present i.e. recumbent

Clinical signs 4

High temperature

Reported in 81% of animals in the study

25% of these animals had pyrexia severity score of 5/5

i.e. very high temperature

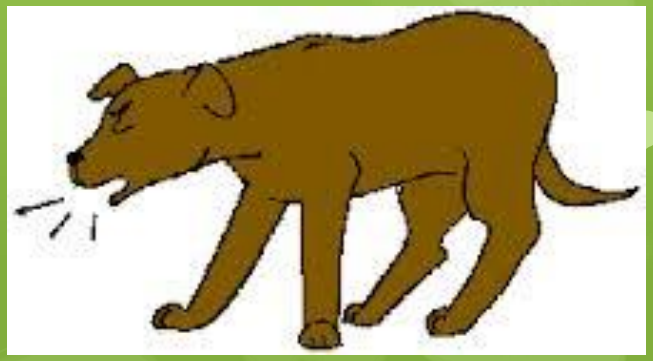
Clinical signs 5

Cough

Reported in 74 % of animals in the study

Half of these animals had cough severity score of 5/5

For 11% of all surveys, there was a documented link with Kennel Cough



Clinical signs 6

Rapid breathing

Reported in 87% of animals in the study

34% of these animals had tachypnoea severity score 5/5

Clinical signs 7

Extended neck

Reported in 81% of animals in the study

30% of these animals had extended neck severity score 5/5

The typical "pneumonia stance" is a combination of extended neck and rapid breathing and arises because the animals cannot get enough oxygen when they breathe normally

Pneumonia stance

This is the typical stance of an Irish Wolfhound with pneumonia, with the head and neck stretched forward. The eyes are preoccupied and dull, she is reluctant to lie down and if she does is unable to lie on her side.

Total signs score

- Maximum possible 35
- Range 5-28
- *34% of animal in the study scored 20 or more*
- Total signs score correlated with overall outcome
- *There were no fatalities amongst dogs scoring 10 or less*

Time to treatment

- The time between occurrence of signs and onset of treatment correlated with outcome

- Outcome seemed to be better if treatment was rigorous from the beginning, even if the patient did not appear to be very ill at this stage (signs and demonstrable changes such as on X rays tend to lag behind the disease process)

Range of treatments given

- Antibiotics -100% of animals in the study
- NSAIDs - 49% of animals
- Mucolytics - 23% animals
- Corticosteroids -6% animals
- IVFT
- Appetite stimulants
- Coupage – 23% animals

Antibiotic use

- Enrofloxacin (Baytril)
- Cefalexin (Ceporex)
- Cetiofur (Excenel)
- Clindamycin (Antirobe)
- Lincomycin (Lincocin)
- Marbofloxacin (Marbocyl)

Antibiotic use

- Metronidazole (Flagyl)
- Clavulanate potentiated amoxycillin (Clavucil)
- Cefuroxime (Zinacef)
- Azithromycin (Zithromax)
- Trimethoprim potentiated sulphonamide (Trimacare)

Antibiotic use

Broadly three groups

- Penicillin types
- Activity against anaerobes
- Others

Antibiotic use

- 40% of animals had three antibiotics or more
- 30% of animals had a combination of two antibiotics
- 30% animals only had one antibiotic

Antibiotic use and outcome

- 30% of animals received cetiofur
- 44% of these animals had recurrent pneumonia
- 31% of these animals died of pneumonia
- 38% of animals *not* receiving cetiofur had recurrent pneumonia
- 23% of animals *not* receiving cetiofur died of pneumonia

Recurrence of pneumonia

- After pneumonia there is some residual lung damage
- This leaves open the possibility of recurrence
- This is especially so if there is another predisposing factor which is still present after the first bout of pneumonia has resolved (e.g. chronic rhinitis or megoesophagus)

Summary

- There are probably a genetic factors involved in pneumonia in the Irish Wolfhound (more that just body shape/size, though this plays a part)
- Abnormal respiratory tract clearance mechanisms may be involved
- Other reasons for inflammation may play a part
- Aspiration is an important component
- Prompt, aggressive and prolonged multitherapy with antibiotics and lots of supportive care is required
- Recurrence is commonplace as lungs are damaged after pneumonia

Summary

- There is no evidence from this study that any particular antibiotic gives better results – there is no evidence for efficacy of cetiofur
- Information sheets of the Health Group website have been amended with this in mind-combinations of antibiotics given promptly to address all possible pathogen groups are likely to give best outcomes

Possible Infectious Agents

- Streptococci
- Staphylococci
- E. coli
- Klebsiella
- Mycoplasmas
- Viruses

We have very little information about this from the survey data