



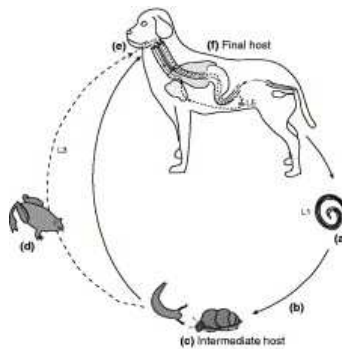
Angiostrongylus vasorum

What is *Angiostrongylus vasorum*?

A. vasorum, the “French Heartworm” (not to be confused with Heartworm disease, which is caused by a different and much bigger parasite called *Dirofilaria*), is a roundworm, which infects the pulmonary arteries and right ventricle of wild and domestic canids (foxes, dogs, wolves, etc). Compared to other roundworms, the size of *A. vasorum* is relatively small (20 x 2 mm), which allow the parasite to colonise small arteries. Infections in dogs tend to be chronic and subclinical, although severe acute presentations are observed in dogs severely infected, debilitated or immune-depressed.

How does a dog get infected with *A. vasorum*?

The natural definitive host of the parasite is the red fox and they serve as infection reservoirs for domestic dogs. *A. Vasorum* is present in many areas in Europe, including South of England and other areas in the



How is AS infection diagnosed?



Diagnosis is based on history, clinical signs and the detection of larvae in faecal or broncho-alveolar lavage obtained on bronchoscopy. Thoracic radiographs may show a

variety of abnormalities, including bronchial, alveolar, interstitial and vascular lesions. In case of pulmonary hypertension (PHT), arteries appear particularly pronounced and the right side of the heart may appear enlarged. Echocardiography and Doppler studies can provide a definitive diagnosis of PHT. Specific clotting tests may also indicate the presence of pulmonary thromboembolism (presence of clots in the pulmonary artery).

How can we treat this disease?

There are a variety of medication that can kill *A. Vasorum*. However, fenbendazole (*Panacur*) is one of the most commonly used drugs. A potential risk associated with treatment is the rapid release of worm proteins (antigens) after the death of parasites and this

UK. Dogs acquire infections by the ingestion of gastropod intermediate hosts (slug or snails) containing infective larvae. After ingestion, these larvae are digested free of intermediate host tissue, penetrate the gut wall, develop in abdominal lymph nodes before travelling via portal circulation to the liver and then to the pulmonary arteries and right ventricle. Mature female worms mate and produce eggs, which lodge and develop in lung capillaries. Larvae hatch from the eggs, breakout into airspace, are coughed-up and swallowed to be passed in the faeces of infected animals.



What are the clinical signs in infected dogs?

Clinical signs can be variable. Infections are usually characterised by a gradual onset of progressively worsening respiratory signs, including coughing, laboured breathing (dyspnoea), exercise intolerance, anorexia, gagging and weight loss. More severe cases may also present subcutaneous swellings, haematomas, fluid in the abdomen (ascites), syncope, vomiting and signs of central nervous system disease may also occur. In rare cases, severe haemorrhage, pneumonia, neurological signs, ocular lesions and sudden death can be observed.

can cause anaphylactic reactions (shock). Severe dyspnoea and ascites may also occur as post-treatment complications. Steroidal anti-inflammatory drugs are usually administered to reduced these complications.



Severe cases presenting with respiratory signs should be stabilised with sedation, intravenous fluids and oxygen supplementation before initiating treatment. PTH can be reduced by administering a specific arterial vasodilator called sildenafil (*Viagra*). Antibiotics are used to control secondary lung infections (pneumonia). Prognosis is generally good; however, in complicated cases, prognosis depends on the efficacy of supportive treatment.

How can we prevent *A. Vasorum* infection?

The first intervention is to limit exposure to slugs and snails. Periodic anti-parasitic treatment (every 3-4 months) should also be considered in dogs living in endemic areas.



This handout provides a general overview on this topic and may not apply to all patients.

Please do not hesitate to contact us if your require any additional information. (www.cardiospecialist.co.uk)