

Lungworms of dogs (1): *Angiostrongylus vasorum* and *Crenosoma vulpis*

Several species of lungworms infect dogs, the most pathogenic and widespread of which is the so-called 'French heartworm', *Angiostrongylus vasorum*. Identification of lungworm larvae to species level is important since the different types require a bespoke case management approach.

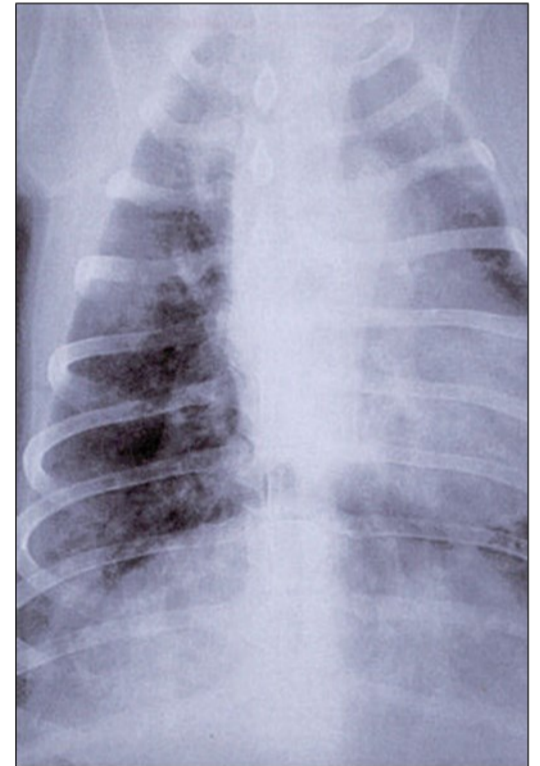
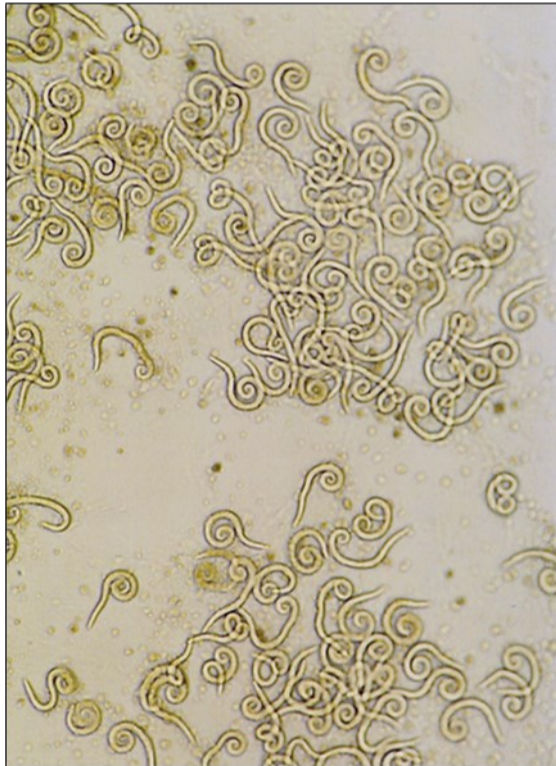
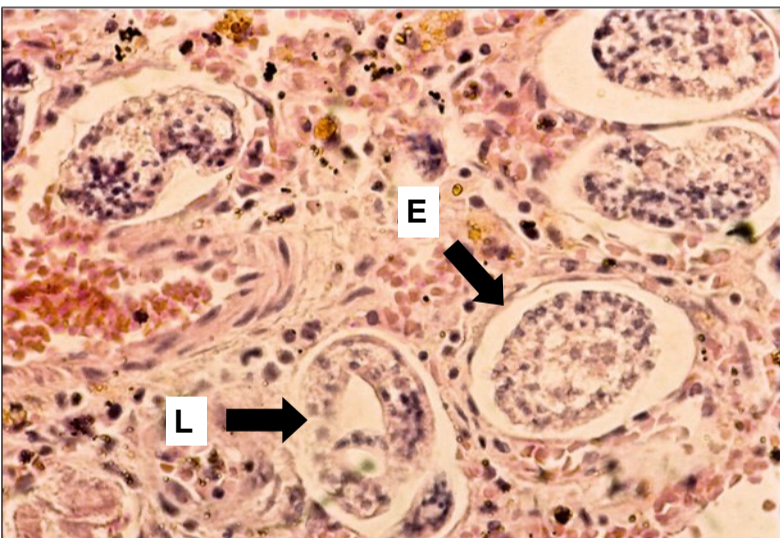
Angiostrongylus vasorum first stage larvae appear in faecal samples and Bronchoalveolar lavage of dogs with mature infections. They measure approx. 350µm and are often coiled but some may have a crescent-shape posture. At low power a kink at the end of the tail is evident and at high power, an indentation, 'the dorsal notch' can be seen (N, arrow). The tail architecture shows a further small indentation (arrow) and

Transmission occurs when dogs ingest infected molluscs or their exudates; adult *A. vasorum* worms mature in the right ventricle and pulmonary vessels and are ovo-viviparous: they produce eggs which are carried to the capillaries.



In very heavy infections, thousands of *A. vasorum* eggs (E) and developing larvae (L) pass through the lungs and migrate to the trachea. This is shown below in an H&E section of a fatal case.

In heavy infections as in the case below, left, many thousands of larvae may be sedimented in a Baermanised faecal samples or in bronchoalveolar lavage (BAL). The image on the right shows a radiograph from the same case and the interstitial pattern.



Crenosoma vulpis is another metastrongyle transmitted through ingesting parasitized slugs and snails or through exposure to their fluids. Not as common and less pathogenic than *A. vasorum*, the adult worms sit in the mucus of the airways and are sometimes coughed up. Approx 1.0-1.5cm in size, they are stout and white, and instantly recognised under the microscope by the circular or annular folds (C) around the anterior end. The first stage larvae in faeces or BAL are approx. 300µm and the tail is straight and pointed (arrow) – there are no 'notches' as in *A. vasorum*