



Feline Arterial Thromboembolism

What is feline arterial thromboembolism?

An arterial thromboembolism (ATE) is a large blood clot that spontaneously forms in the heart and travels through the aorta until it becomes lodged in an artery. Often, this blood clot is so large that it stops blood from moving past it. A common place for the blood clot to become lodged is near the origin of the iliac arteries, which supply blood to the back legs and therefore it may cause loss of blood circulation in this region. A common name for this type of clot is a 'saddle thrombus'. Signs of an arterial thromboembolism are quickly evident. The blood clot causes paralysis of the affected limb(s), and the cat may suddenly fall over and cry out in pain. The affected limb(s) may develop a purple/blue colour and can be cold to the touch.

Cats with pre-existing heart disease are significantly predisposed to developing an arterial thromboembolism. Heart disease is the underlying cause for over 50% of the cases. Breeds at increased risk of developing arterial thromboembolism include Abyssinian, Ragdoll, and Birman cats. However, cats of all breeds can potentially develop ATE. Male cats are overrepresented because they are more commonly affected by certain heart diseases (i.e. Hypertrophic Cardiomyopathy-HCM).

What should be expected now?

Prognosis for cats with ATE can be divided into both short term and long term survival. Data gathered from a clinical study (Smith et al. J Vet Intern Med 2003;17: 73) indicate that 45% of all cats that were treated for ATE will survive the initial episode. Duration of hospitalisation ranged from 0-10 days with an average stay of 2 days. Two physical parameters that can suggest a poorer prognosis are decreased rectal temperature and decreased heart rate. A temperature greater than 37.1°C seems associated with a better prognosis. Additionally, a better prognosis is also associated



How is ATE diagnosed?

The diagnosis of ATE is made by combining the clinical signs with lab-work and echocardiography (ultrasound of the heart). One or more limbs may be affected, and hind limbs are more commonly affected than front limbs. Clinical signs of ATE in an affected limb include no palpable pulses, severe pain, bluish colour, and profound weakness. The cat may have a low body temperature as well.

Several tests will be needed to confirm the diagnosis, and to look for complicating factors. Chest radiographs (x-rays) are needed to look for congestive heart failure. Doppler (blood pressure assessment) may be used to confirm the lack of a pulse in the affected limb. Once the patient is stabilized, blood-work is often performed to evaluate electrolyte levels, acid/base status, and renal function. An echocardiogram will be performed to confirm and characterise heart disease.

In a low percentage of cats (15%), a cause for the ATE will not be identified.

How is ATE treated?

Treatment is first based on patient stabilisation since many of these patients present in shock. The initial goals are to treat shock and/or congestive heart failure, if present, provide analgesia (pain control), improve systemic perfusion (blood flow), provide nutritional support and prevent further clot formation. Intravenous fluids are sometimes administered. Heparin can be used to keep the blood clot from getting bigger, and then - provided the cat is eating - aspirin therapy may be started. Additional medications will be prescribed if congestive heart failure (CHF) is present (see below). Patients may be hospitalised for several days.



with involvement of one limb versus two and presence of residual motor function in the affected limb(s). Long term survival is best estimated according to the presence or absence of CHF at the time of diagnosis. The average survival if CHF is present at the time of ATE episode is 2 months, with none surviving beyond 8 months. The cats who presented without signs of CHF survived an average of 8 months, with some living for 2 additional years. Complications following survival of the acute arterial thromboembolism include tissue necrosis (death of tissue), infection, or limb contracture. Tissue sloughing or

infection may be severe enough in some cases to warrant wound management or limb amputation. Recurrence of an additional ATE episode occurred in 25% of cats within 6 months in the above study. However, an additional thrombosis resulted in death or euthanasia in only 20% of discharged cases. The most severe complication in cats with ATE is development of CHF. Therefore, monitoring for signs of CHF is critical in the long term management of cats with ATE and underlying heart disease.

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)