



## **Splenic disorders and surgery**      Information sheet T N Carr

*What is the spleen?*

The spleen is one of the abdominal organs. It sits up against the stomach, and lies across the abdomen a bit like a big tongue.

It is there to help make blood, and also to help with the immune system.

Normally the spleen for a medium sized dog would weigh about 150 grams and would be about 10 cm long and 2 cm wide.

*What can go wrong with the spleen?*

Splenic disorders that may require surgery include:

- Rupture secondary to a trauma eg car accident
- Splenic torsions/twists
- Splenic hyperplasia
- Splenic tumours note different types and this effects outcome.

*If it helps make blood how come you can manage without the spleen?*

If an animal has to have the spleen removed, the blood manufacture is made up for by the kidneys and bone marrow. Removal of the spleen does not seem to have any bad effects on dogs and cats.

*What tests are normally done to assess the spleen?*

When the spleen goes wrong it usually goes wrong in a big way!

This may result in the animal losing a lot of blood into the abdominal cavity, or presenting acutely collapsed, and being very weak.

Usually we will advise full bloods to include biochemistry and haematology to assess the status of the other internal organs and to see how much anaemia is present.

Feeling the abdomen often reveals a large mass, often bigger than a grapefruit but sometimes bigger than a football.

We would normally recommend an ultrasound examination as this helps us plan surgery and also gives us an indication as to whether the liver is affected. If the liver shows signs of disease also (tumour spread) then we will normally advise surgery will be unsuccessful and not advised.

If the liver is clear on scan, and the other organs appear to be managing ok, then we will discuss surgery to take the spleen out. Once anaesthetised for this surgery xrays of the chest are taken again to check for any spread, as if spread is noted in the lungs again this would be a recommendation not to proceed with surgery.

Removal of the spleen is a major abdominal surgery and often the patients will already have lost a lot of blood. These patients are **HIGH RISK** and not all will survive the operation. Sadly it is not uncommon to lose a patient toward the end of the operation.

Once the surgery is done the risks are still not over.

Some dogs despite all the medical support we can give do not make it.

The final survival rate will depend on what is found to be the problem with the spleen.

- Splenic ruptures secondary to trauma

As long as these are picked up early these dogs do have a reasonable chance. Probably the outcome will depend on whether other traumas have occurred in particular whether the liver has been ruptured. It may not be possible to detect this until surgery is performed.

- Splenic torsions

These may be spontaneous or may be in association with twisted stomachs. Surgically these cases are a major challenge. If we can get the patient over the first 24 hours after surgery I would say these do very well

- Splenic hyperplasia

At surgery it is often impossible to tell the difference between benign hyperplasia of the spleen and cancer. Those with benign hyperplasia will do very well again once after the initial 24 hour risk period.

- Splenic tumours

If the tumour of the spleen is benign then the patient once after surgical risk, is likely to do very well. I have several patients that have survived without further complications for some years. IF however the spleen contained a tumour called haemangiosarcoma, sadly the prognosis is very poor. Dogs with confirmed haemangiosarcoma are unlikely to make 6 months post surgery.

A complication we see in some patients following splenectomy is thrombo embolism. This is where a blood clot moves from the surgical site and ends up in the brain or spine, causing sudden collapse and sometimes sudden onset convulsions. If this happens, though thankfully rarely, there is little we can do and euthanasia is usually recommended.

If a tumour is suspected we will usually recommend sending off samples of the removed tissue for analysis (histopathology). The problem with histopathology is that the spleen removed may often weigh in excess of 5 kg and samples taken from it may not represent the tumour. Sometimes the results of histopathology can be misleading. A positive identification of a splenic haemangiosarcoma should be taken as positive BUT a negative identification should be read with caution.

*Why then do we do splenectomies when the risks are high?*

Often we have no choice but to offer surgery with the attendant risks, or put the animal to sleep as without surgery the outcome is fixed.

We do every test possible to ensure we have more chance of a good outcome BEFORE we go to surgery, BUT sadly despite all the tests being good ie no sign of spread, the outcome can still be poor.

Conversely though some patients go on to have many happy years of good quality of life.