



O A K B A Y A N I M A L H O S P I T A L

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PYOTHORAX

Pyothorax is an infection that occurs in the pleural space. The pleural space is located between the lungs and the chest wall. In the normal cat this space is almost non-existent because the lungs lie against the chest wall. However, when fluid accumulates in the pleural space, it can become quite large.

Infection in the pleural space produces pus which limits the amount of room available for the lungs to expand. As fluid accumulates, the cat tries to compensate by breathing more rapidly. Because of limited space available for lung expansion, the cat must take very shallow breaths. Pain associated with inflammation in the pleural space (pleuritis) may also contribute to shallow breathing. In addition to respiratory difficulties, the infection in the chest releases toxins into the blood stream; this is a further stress on the cat.

Pyothorax is a very serious illness. If left untreated, the cat will die. Some cats will die even with appropriate treatment.

What causes pyothorax?

There are probably a number of different causes, although we do not understand all of them. We know that severe dental disease may release bacteria into the blood stream; this blood-borne infection may eventually reach the pleural space. Foreign bodies, such as grass awns, are known to cause pyothorax if they migrate into the chest. Bite wounds through the chest wall are also recognized as a potential cause. However, in most cases, it is impossible to determine what started the infection.

How is pyothorax treated?

The ideal method of treatment involves surgical placement of a drain tube into the pleural space. The tube usually remains in place for several days. Placement of a chest tube offers several advantages in both the diagnosis and management of this condition.

1. It allows the chest cavity to be more completely emptied than is possible with intermittent drainage by a syringe and needle.
2. It allows cleansing solutions to be flushed into the chest.
3. Once a chest tube is in place, the rate of ongoing fluid formation and changes in the character of the fluid can be assessed.
4. The chest tube is very helpful in preventing further pus accumulation in the chest cavity.

Antibiotic therapy is also a cornerstone of treatment. A sample of the pus is sent to the laboratory for identification of the bacteria and determination of an appropriate antibiotic. Because lab tests can tell us which antibiotic is best, the cat's chances of recovery are greatly improved when the fluid is cultured. Most cats are started on an injectable antibiotic; after improvement occurs and the drain tube is removed, it is usually possible to continue treatment at home with an oral antibiotic.

Are there significant complications that may arise?

Cats with other (concurrent) diseases will have a poorer prognosis than cats with no other problems. Of particular significance would be cats infected with the feline leukemia virus or feline immunodeficiency virus. Complications include spread of the infection to other organs and the development of adhesions (or scar tissue) between the lungs and chest wall. Adhesions often lead to reduced lung function in some patients.

How long is treatment?

Most cats require drainage through the chest tube for about 5-10 days. They are almost always hospitalized during that phase of treatment. When pus accumulation stops, the tube is removed and the cat is sent home to complete treatment.

The complete treatment usually takes 4-8 weeks. If it is stopped too soon, relapse may occur. However, this does not tend to be a recurring disease, so the long term prognosis is usually very good.

What is the prognosis?

Cats that are treated before they lose weight and are dehydrated usually recover well if aggressive treatment is used. Aggressive treatment includes fluid therapy, placement of a chest drain tube, and appropriate antibiotics. However, cats that have advanced disease before treatment begins have a poorer prognosis.