

Pericardial Effusion

ABOUT THE DIAGNOSIS

Pericardial effusion refers to an accumulation of fluid around the heart, within the pericardium. The pericardium is a membranous sac that surrounds the heart. When fluid accumulates slowly, the pericardium stretches and enlarges to accommodate the fluid, meaning that symptoms are delayed or absent. A more rapid accumulation can cause significant symptoms, even with relatively small amounts of pericardial fluid accumulation. The presence of fluid causes problems because the fluid compresses the heart. Pressure due to pericardial effusion interferes with normal filling of the heart with blood. Less blood filling the heart means that less blood can be pumped to the body with each heartbeat. Pericardial effusion can increase the external pressure on the heart to the point that delivery of blood to the body is severely compromised, a condition called cardiac tamponade. Severe cardiac tamponade is a life-threatening condition.

Pericardial effusion is more common in older, large breed dogs. Golden retrievers are more often affected than other breeds. Cats can also develop pericardial effusion, but effusions severe enough to cause symptoms are relatively uncommon in the cat. A variety of conditions can cause pericardial effusions. Tumors of the heart, such as hemangiosarcomas or heart base tumors, tumors of the pericardium (mesotheliomas), infections, congestive heart failure, and foreign bodies can all cause accumulation of fluid within the pericardium. Trauma to the heart, rupture of the heart, or coagulation disorders (bleeding tendencies) can allow leakage of blood around the heart. Sometimes no cause can be discovered; this is called idiopathic pericardial effusion. In cats, pericardial effusion may be caused by congestive heart failure, feline infectious peritonitis infection, and tumors, particularly lymphoma.

SYMPTOMS: Symptoms can vary considerably but often include lethargy, breathing difficulty, poor appetite, episodes of collapse or falling down, and distention of the abdomen (belly). In addition, your veterinarian may find muffled heart sounds when listening to the heart with a stethoscope, weak pulses, pale gums, and distention of the jugular veins on physical examination. These signs are suggestive, but not conclusive for, pericardial effusion, because many other unrelated disorders can produce similar symptoms. Therefore, additional tests are warranted to establish whether pericardial effusion is present, and if so, what the underlying cause is.

DIAGNOSIS: On x-rays, the heart will commonly appear enlarged, with a round shape to the heart shadow (enlarged cardiac silhouette). Echocardiography (ultrasound examination of the heart) is the most definitive test. The fluid-filled area between the heart and pericardium can be seen clearly this way. If a tumor is present, it may be seen as well, although even large volumes of pericardial effusion can be produced by some tumors that are initially too small to be seen on ultrasound. Depending upon your pet's visible symptoms and the veterinarian's findings, additional tests may be

indicated, such as electrocardiograms (EKGs), blood clotting profiles, and tests for infectious diseases. A routine set of lab tests including complete blood count, biochemistry profile, and urinalysis is usually necessary to identify other concurrent illness that can affect overall outlook (prognosis) and treatment options.

LIVING WITH THE DIAGNOSIS

The prognosis (outlook for eliminating the problem and having a normal lifespan) for dogs with pericardial effusion depends upon the underlying cause. Some conditions, such as inoperable tumors, are incurable, and treatment is designed to extend life and keep the pet comfortable. Other underlying causes may be correctable, such as foreign bodies or coagulation disorders.

TREATMENT

If cardiac tamponade is present, the fluid must be drained promptly by a procedure called pericardiocentesis. Using local anesthetic, your veterinarian passes a catheter between the ribs into the pericardial sac, and the fluid is drawn off. Alleviating the fluid accumulation that presses on the heart will rapidly stabilize a pet's circulation and cardiovascular status in the vast majority of cases. Treatment then depends upon the cause of the condition. If the underlying condition cannot be corrected, sometimes a procedure called pericardiectomy is performed. This is a surgery of the chest in which the pericardial sac is opened and partially removed, allowing the fluid to drain into the chest rather than building up around the heart. It is not a cure, but it does prevent the recurrence of cardiac tamponade. In the case of some inoperable heart tumors, this treatment can extend the pet's life. With reoccurring idiopathic pericardial effusion, pericardiectomy can control the problem indefinitely.

DOs

- Understand that the initial symptoms can be vague and that the most accurate diagnosis requires cardiac ultrasound.
- Consider having a second opinion with a veterinary cardiologist (directories: www.acvim.org [North America] or www.ecvim-ca.org [Europe]) if the diagnosis is unclear, or for the latest treatment options.

WHEN TO CALL YOUR VETERINARIAN

- Have your pet reexamined immediately if any of the original symptoms or signs reoccur after initial treatment.

SIGNS TO WATCH FOR

Any of the following may indicate return of pericardial effusion and warrant a recheck:

- Lethargy, weakness, or exercise intolerance.
- Poor appetite.
- Breathing difficulty.
- Collapse or fainting spells.
- Abdominal swelling/bloated appearance.

ROUTINE FOLLOW-UP

- Monitoring depends on the cause of the pericardial effusion. A follow-up echocardiogram is usually warranted within 2-4 weeks, and then periodically to monitor for reoccurrence of pericardial effusion.

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