

Polycystic Liver Disease in Hamsters

Definition

Polycystic Liver Disease (PLD) of hamsters is a developmental defect of the bile ducts of the liver that leads to the development of one or multiple fluid-filled cysts. PLD has been reported in Syrian hamsters (*Mesocricetus auratus*, also called teddy bear or golden hamsters) and European hamsters (*Cricetus cricetus*, not a common pet in the United States). It is possible in dwarf hamster species, but has not been reported in the literature at this time. A similar disease process has been reported in humans, dogs, cats, and multiple other animals.

Despite the name, cysts that develop are not limited to the liver and can also form in other organs, including the kidneys, intestines, reproductive tract, and spleen. In these locations, the cysts represent abnormal development of the lymphatic tracts. These cysts start small and get bigger over time, reaching up to 2cm in diameter. This leads to noticeable enlargement of the abdomen and discomfort.



Hamster receiving an ultrasound under anesthesia



QUICK FACTS

- Common in older hamsters
- Usually multiple cysts
- Managed with supportive care

Signs & Symptoms

There are no clinical signs of illness early in the disease. As the cysts grow, they start pressing on the surrounding liver tissue and other organs. Abdominal distension is often the first sign noticed, followed sometimes by fur loss, difficulty breathing, reduced activity, and weight loss. This condition is not typically thought to be painful, but discomfort may occur later in the disease process due to the cysts taking up space.

Diagnostics

The history provided by you, the owner, along with certain physical examination findings, can be highly suggestive of PLD. Your veterinarian may feel large, mass-like structures in your hamster's abdomen near the region of the liver. Diagnostic imaging, such as an abdominal ultrasound (sonogram) or a computed tomography (CT or CAT) scan, can be used to localize the cysts to the affected organs, measure the cysts, and assess for concurrent or secondary illnesses. Your veterinarian may recommend blood work to assess the overall health of your hamster and to assess the impact of the cysts on liver and kidney function. The information gathered from these diagnostics may impact prognosis. It is important to try to rule out other reasons for masses within the liver, such as cancer, as well as other reasons for cysts, such as cystic ovarian disease.

Treatment Options

While PLD cannot be cured, there are ways to manage it for weeks to months. Early diagnosis can help in managing the disease. While removal of the cysts using surgery is rarely a reasonable option due to the extensiveness of the cysts throughout the liver, palliative treatments can improve the quality of life of your hamster, and they can continue to live happily for some amount of time. Palliative treatment can include draining the fluid out of large cysts or using pain medications, liver protective medications, and nutritional support. Multiple cyst drainages may be performed over time, but as the disease progresses it often becomes harder to remove enough of the fluid to keep your hamster comfortable. It is important to work closely with your veterinarian to monitor your hamster's condition and ensure that they are comfortable throughout the treatment process. When palliative care can no longer provide comfort, humane euthanasia should be considered.

Risk to Others

Polycystic liver disease is not infectious or transmissible to other animals.

Risk Factors

Polycystic liver disease is most common in hamsters that are over one year old, and even more common in hamsters that are two years old. Some studies have cited a prevalence of up to 76% in some colonies of lab hamsters, although the incidence is likely lower in the typical pet population. **This highlights the importance of regular veterinary check-ups for your hamster, especially as they get older.** Syrian hamsters appear to be genetically predisposed to the formation of PLD. Because of the suspected genetic link, it is best not to breed hamsters with a familial history of PLD. Unfortunately, there are no preventative measures you can take at home to reduce the risk of developing this disease.

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