

Navigating Hepatic Microvascular Dysplasia in Miniature and Toy Poodles

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Introduction:

Hepatic Microvascular Dysplasia (HMD or MVD) is a liver disorder that can affect our beloved poodles. Understanding this condition is crucial for responsible breeders, owners, and enthusiasts alike. In this article, we'll delve into the intricacies of HMD, exploring its causes, symptoms, diagnosis, and management to empower those caring for these wonderful companions.

What is Hepatic Microvascular Dysplasia?

Hepatic Microvascular Dysplasia is a congenital, polygenic disease that involves abnormal development of the small blood vessels within the liver. This anomaly impairs the liver's ability to perform essential functions, potentially leading to various health issues.

Causes:

While the exact cause of HMD remains unclear, it is generally considered a hereditary condition. Responsible breeders are instrumental in minimizing the prevalence of HMD by screening puppies and keeping detailed health records on their dogs and their offspring throughout their lifetime.

Symptoms:

Many dogs are diagnosed as a side effect of veterinary screening for surgery. Some of those dogs may live full, healthy lives but some may present with the symptoms any time in their lives, often with the onset secondary to another disease. "Clinical signs are more common and severe in dogs who also have a portosystemic shunt or other liver abnormalities." (Wier, Barnett) Identifying HMD early is crucial for effective management. Common symptoms include:

- Poor Growth: Puppies with HMD may exhibit slower growth rates than their littermates.
- Vomiting and Diarrhea: Gastrointestinal issues can arise due to compromised liver function.
- Increased Thirst and Urination: Changes in water intake and urination patterns may be observed.
- Jaundice: Yellowing of the skin and eyes can occur as a result of impaired liver function.

If the liver dysfunction is severe enough, some dogs may develop hepatic encephalopathy which is a neurological dysfunction that may cause behavioral changes such as head-pressing, abnormal vocalization, ataxia and seizures. More rarely, dogs may develop fluid filled abdomens as a result of liver failure.

Diagnosis:

Diagnosing HMD involves a combination of clinical signs, screening tests, and imaging studies. Veterinary consultation is paramount for an accurate assessment.

This comprehensive approach utilizes various tests to assess the liver's function and structure. Blood tests play a crucial role in screening for HMD, with serum biochemistry panels helping to evaluate liver enzyme levels and overall liver

health. A urinalysis might reveal unusually diluted urine, a result of heightened thirst and increased urination linked to the symptoms of increased thirst and urination. Additionally, pre- and post-meal bile acid tests are commonly employed to assess the liver's ability to process substances. The bile serum test can be performed as early as 16 weeks of age to screen puppies. Advanced imaging techniques, such as ultrasound, provide valuable insights into the liver's structure, aiding in the identification of potential abnormalities. If no other abnormalities are identified, a biopsy may be performed laparoscopically or surgically to obtain enough liver tissue to evaluate the blood vessels.

A collaborative effort between veterinarians and dog owners is essential in conducting these diagnostic tests, ensuring accurate assessments and informed decisions for the well-being of the poodles under consideration for breeding. Early detection through these tests is instrumental in implementing effective management strategies for dogs affected by Hepatic Microvascular Dysplasia.

Management:

While HMD doesn't have a cure, its effects can be managed through careful veterinary supervision. Most dogs will respond positively to these management techniques. Dogs with advanced symptoms, other diseases, or liver failure may be terminal within 4-6 months of diagnosis. Treatment options may include:

- Specialized Diets: Prescription diets with lower protein can help support liver function.
- Medications: Some medications, such as antibiotics, may be prescribed to alleviate symptoms and manage the condition. Hepatoprotective supplements may be prescribed to decrease ongoing liver damage and assist in protecting remaining, healthy liver tissue.
- Regular Monitoring: Ongoing veterinary assessments are essential to track the progression of the disease and adjust medications and supplements as required.

Responsible Breeding Practices:

Mitigating the impact of HMD involves responsible breeding practices. Breeders should prioritize comprehensive health testing, collaborate with veterinary professionals to make informed breeding decisions and exclude dogs with HMD from breeding. Both parents of an HMD-affected poodle should undergo screening for liver function, eliminating those with abnormalities. Even without abnormalities, it's advisable to avoid repeating a breeding that produced an HMD-affected poodle. Siblings of affected dogs should also be monitored for symptoms. Open communication between breeders and puppy owners is crucial to ensure the well-being of the poodle population.

Conclusion:

Hepatic Microvascular Dysplasia is a complex condition that requires a multifaceted approach for effective management. By raising awareness, promoting responsible breeding practices, and prioritizing the health of our poodles, we can work together to minimize the impact of HMD and ensure a brighter, healthier future for these beloved companions.

Resources:

https://ca.idexx.com/en-ca/veterinary/reference-laboratories/pathology/chemistry-data-puppy/ https://vcahospitals.com/know-your-pet/hepatic-microvascular-dysplasia https://www.acvs.org/small-animal/hepatic-microvascular-dysplasia-or-portal-atresia/ https://www.aaha.org/globalassets/02-guidelines/2021-nutrition-and-weightmanagement/resourcepdfs/nutritiongl_table8.pdf https://www.vetspecialty.com/hepatic-microvascular-dysplasia-mvd/