VETERINARY TECHNICAL DATASHEET

Muscular Hypertrophy (Double Muscling)

Mutation Found In :Whippet

Disorder Type

- Muscle

Disease Severity

- Mild/moderate

Background

Muscular hypertrophy, also called double muscling, is characterized by increased muscle mass. The trait is caused by a mutation in the myostatin (MSTN) gene. Myostatin regulates the size of muscles and prevents them from growing too large. The trait is typically encountered in the Whippet, with affected dogs given the nickname "Bully Whippets". Carrier dogs seem to benefit from the mutation since they are known to be faster in competitive racing than normal individuals.

Key Signs

- Increased muscle mass

Clinical Description

Dogs that are homozygous for the mutation are highly over-muscled. Heavily muscled Whippets, also called "Bully Whippets", have broad chests and unusually well-developed leg and neck musculature. Bully Whippets can easily be distinguished from their normal littermates based on physical appearance. Double muscled Whippets don't seem to have any health problems other than occasional muscle cramping.

Mode of Inheritance

- autosomal recessive

Gene Name

- MSTN

Next Steps

Treatment is supportive should an affected dog suffer from muscle cramping.

References

Mosher DS, Quignon P, Bustamante CD, Sutter NB, Mellersh CS, Parker HG, Ostrander EA. A mutation in the myostatin gene increases muscle mass and enhances racing performance in heterozygote dogs. PLoS Genet 3:e79, 2007.