VETERINARY TECHNICAL DATASHEET

Amelogenesis Imperfecta, (AI)

Mutation Found In :Italian Greyhound

Disorder Type

- Dental

Disease Severity

- Mild/moderate

Background

Amelogenesis imperfecta (AI) or enamel hypoplasia is a congenital disorder characterized by defects in enamel formation. Enamel is a hard, smooth substance that covers the crown of the tooth providing protection to the underlying dentine. Normal enamel functions to strengthen the teeth, seal the teeth from bacteria, and prevent plaque from accumulating on the surface of the teeth. The clinical signs of amelogenesis imperfecta include enamel thinning and roughening and discoloration of the teeth. Amelogenesis imperfecta is known to affect both the Italian Greyhound and the Standard Poodle, but the genetic cause for the disease has only been identified in the Italian Greyhound.

Key Signs

- Discolored teeth
- Enamel roughening
- Enamel thinning
- Small pointed teeth

Clinical Description

Amelogenesis imperfecta is characterized by defects in the enamel formation of both baby teeth and permanent teeth. Enamel formation starts before the eruption of the first teeth and there will be no subsequent repair of the enamel after eruption. The enamel of affected teeth erodes more rapidly over the years than normal enamel. The teeth of affected dogs are pitted, rough, and discolored brown. Affected teeth are often small and pointed with increased gaps. This form of amelogenesis imperfecta is relatively mild, and the affected teeth function in a nearly normal fashion. There is no treatment available for amelogenesis imperfecta, but most dogs live a normal life with mild signs.

Mode of Inheritance

- autosomal recessive

Gene Name

- ENAM

Next Steps

For dogs affected with this condition, particular attention should be paid to maintaining good dental health. Dental intervention may be needed in some cases.

References

Gandolfi B, Liu H, Griffioen L, Pedersen NC. Simple recessive mutation in ENAM is associated with amelogenesis imperfecta in Italian Greyhounds. Anim Genet 44:569-78, 2013.