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Machine Learning Program that Diagnoses Hypoadrenocorticism in Dogs Using Standard Blood Test Results

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ABSTRACT

Researchers at the University of California, Davis have developed a program based on machine learning algorithms to aid in diagnosing hypoadrenocorticism.

FULL DESCRIPTION

Hypoadrenocorticism is an endocrine disorder that results when the adrenal glands do not produce enough hormones (cortisol plus or minus aldosterone) required for normal physical functions. The condition can be fatal if left untreated. It also occurs, less commonly, in other species such as cats humans. In dogs, hypoadrenocorticism often presents with a variety of vague, disparate, clinical signs - which can be mistaken for a variety of other diseases. Therefore, it is often either undiagnosed or misdiagnosed, delaying effective treatment.

Researchers at the University of California, Davis have developed a program based on machine learning algorithms that has proven effective in screening for hypoadrenocorticism. This program uses standard complete blood count (CBC) and serum chemistry panel blood test results to determine if the patient should be tested for hypoadrenocorticism. The program has been trained with blood test results from over 1000 dogs. Its accuracy exceeds 90% for positive diagnoses and over 98% for negative diagnoses. It is also being continually refined and improved with additional data. This program can serve as an economical, easy-to-use, add-on screening test to help early identification of patients with indications of hypoadrenocorticism.

APPLICATIONS

- ▶ Diagnostic tool to recognize hypoadrenocorticism in dogs

FEATURES/BENEFITS

- ▶ Quick results from an easy-to-use diagnostic tool
- ▶ Provides understandable visuals and graphics
- ▶ High predictive probability

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	2021-024913	08/12/2021	2018-811

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OTHER INFORMATION

KEYWORDS

Machine learning, Deep learning, Neural network, Hypoadrenocorticism, Dogs, Canines, Diagnosis, Artificial Intelligence, Addison's disease

CATEGORIZED AS

- ▶ **Computer**
 - ▶ Other
 - ▶ Software
- ▶ **Veterinary**
 - ▶ Companion Animal
 - ▶ Diagnostics
 - ▶ Other

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