Cushing’s Syndrome

A common hormonal disease in dogs

Cushing’s syndrome occurs when there is excess cortisol hormone by the adrenal gland in the body. It is mostly common in dogs and uncommon in cats.

90% of most cases are caused by pituitary tumor which excessively secretes adrenocorticotropic hormone (ACTH). The ACTH stimulates the adrenal gland to excessively secrete cortisol. This type of Cushing’s syndrome is called pituitary dependent hyperadrenocorticism (PDH).

The remaining 10% is caused by adrenal tumor (AT) which causes the abnormal secretion of cortisol.

Clinical Symptoms

Excessive consumption of liquids, excessive secretion of urine, excessive eating, panting, abdominal bloating, hormonal hair loss, epidermal atrophy, liver enlargement, muscle atrophy, facial nerves paralysis

Cushing’s syndrome is diagnosed after thorough medical examination, laboratory and physical tests. An example of diagnostic flow for Cushing’s syndrome disease is shown.

Medical examination, blood test, blood chemistry test, X-ray test, etc. → Re-examination of diagnosis → Cushing’s Syndrome Negative

ACTH stimulation test → hyperactivation → normal → Suppression positive → LDDST

Ultrasound test of adrenal gland → Hyperplasia in both glands → Re-examination of diagnosis → Suppression negative → HDDST

One gland has a tumor; the other is atrophy or normal

AT  PDH

LDST: Low dose dexamethasone suppression test
HDDST: High dose dexamethasone suppression test

Matsuki Naverseki, Handbook of Endocrine Diseases of Dogs and Cats 2011
There are three screening tests for Cushing’s syndrome. Most commonly used is the ACTH stimulation test and the low dose dexamethasone suppression test (LDDST). In the ACTH stimulation test, a small dosage of ACTH is administered and the change of cortisol level is determined after a few hours. Dogs with Cushing’s syndrome have relatively high cortisol levels. In this test, iatrogenic Cushing’s syndrome or Addison’s disease can also be determined.

In the low dose dexamethasone suppression test, a small dose of dexamethasone is administered to the dog and the extent of suppression is determined after 8 hours. The cortisol level of dogs with Cushing’s syndrome do not decrease 8 hours after low dose dexamethasone intake.

**CORTISOL is an indispensable parameter in Cushing’s syndrome diagnosis!**

**FUJI DRI-CHEM AU10V and v-COR**

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<td>FUJI DRI-CHEM IMMUNO AU CARTRIDGE v-COR</td>
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- Measurement time: 10 min
- Types of sample: Canine Plasma (dilution)/Serum
- Sample volume: 100μl/Test
- Dynamic Range: 1.0 - 30.0 μg/dl (27.6 - 828.0 nmol/L) 1.0 - 50.0 μg/dl (27.6 - 1380.0 nmol/L) (with dilution)
- Reagent Storage: 2-8°C