

## INTERPRETATION OF THE EHAA RESULT

Profile data	Details of the test
Name: Moshi	Date of the test: 5.4.2024 Test code: UK40F5Q69

### Calcium

The level of calcium in hair is often inversely proportional to the resources in the body. A low level in the hair may be the reason of lower uptake of calcium or its deficiency in the diet.

Disturbances in the amount of calcium in the dog's body are usually caused by an incorrectly composed dose (monotonous), feeding mainly with meat, serving only vegetable or only cereal-based food, "table leftovers", or poorly balanced diet - inadequate dose of phosphorus and vitamin D. All of this leads to disturbance of the calcium-phosphate balance in the body and is the cause of many diseases. Moreover, excessive consumption of protein, fat, or phosphorus could result in reduced absorption of calcium in the body.

Recommendation: verify that the dog receives a balanced dose in terms of calcium and that the ratio of Ca:P is proper (1-1,2:1). It is recommended to measure a daily portion of dog food on the scale. Homemade meals have to be supplemented with trace elements, especially calcium. Eggshell meal, calcium citrate, and calcium carbonate are good sources of calcium. To specify the proper dose of calcium supplement, some calculations should be done. It is suggested to conduct another EHAA analysis, which should be done after 6 months to verify the suitability of nutrition.

A decreased Ca:P ratio in the hair may indicate a fast metabolism of the dog. Pay attention to the behavior of the dog, you can observe reduced body mass and hyperactivity.

### Sodium and potassium

The level of sodium and potassium in the hair does not reflect the level of these ingredients in the diet or resources in the body. But high levels of them in the hair can mean excessive activity of aldosterone, a hormone that regulates the body's mineral and water balance. It may be a reaction to the last dehydration of the body. You can check the functioning of the adrenal cortex and whether it is not the result of hypertension and heart failure.

Also, a low Ca / K ratio indicates low thyroid activity.

Recommendation: tests for hypothyroidism.

## **Sulfur**

Sulfur exists in various forms in the body and its metabolism is complicated. The level of sulfur in the hair does not provide any significant information about important forms of sulfur, related to the need for dietary restrictions or specific supplements. However, a deficiency of sulfur in the body can be manifested by discoloration of hair, brittleness and tarnishing of fur, the fragility of claws; dandruff, and skin diseases (hot spot, eczema, dermatitis, allergies).

## **Copper**

The level of copper in the hair reflects the body's resources exactly.

Symptoms of deficiency: disturbed lipid metabolism of the body - causing an increase in triglyceride levels in blood, reduced resistance to infections, abnormal collagen formation, bone demineralization, strong depigmentation of the hair, especially of the face part of the head, defective keratinization of the skin and hair follicles, fur becomes rough and dull.

## **Zinc**

The level of zinc in the hair gives us important information about the resources in the body, but the interpretation can be complicated. An increase in the amount of zinc in the hair can mean low levels in the body, and low zinc in the hair can mean the same. A low or high level of zinc in the hair suggests that zinc supplementation is indicated.

Zinc supplementation several times a day is more effective (in terms of absorption) than increasing the portion of zinc administered in a single dose.

As far as the skin is concerned, zinc deficiency causes disruption of normal cell division, and the skin becomes dry and begins to flake. Moreover, hair growth is delayed, and eventually, loss of hair and baldness throughout the body is observed.

## **Iron**

Excessive Fe absorbed with food may be deposited in various tissues, including hair. In the hair of Moshi, content of iron is low, so you should check content in blood. The effect of deficiency of iron is, for example, tarry/ black feces, weakness, and anemia.

Recommendation: please make a blood test for Fe content to ensure that this ingredient is correct.

## **Selenium**

In the elemental analysis of human hair, a high dependence between the selenium content in the body and its amount in hair was found. Clinical signs of Se excess in dogs were observed, eg. fatigue, nausea, baldness, yellowing of the skin, cardiomyopathy, liver disease. Selenium poisoning in dogs is very rare. A high level of selenium is in poultry, offal, fish, and algae.

## **Toxic elements**

Heavy metals can have a negative effect on the absorption of zinc and copper.

Lead poisoning can afflict dogs through both sudden and long-term exposure to the metal. Through the ability to substitute itself for calcium and zinc, lead damages the cell, and affects normal biological processes. Common sources of lead are fishing sinkers, golf balls, certain plumbing or construction materials, shotgun pellets, batteries, children's toys. This toxic element could also occur in dust in older buildings.

The symptoms of lead poisoning include vomiting, diarrhea, poor appetite, abdominal pain, and lethargy.

## **SUPPLEMENTATION**

- **spirulina or chlorella** - contain chlorophyll and glutathione, which bind heavy metals and help remove them from the body (1 g/day)

- **omega-3 - 3 fatty acids in the form of fish oil or krill oil/meal** - they contain high amounts of EPA and DHA, which are essential in dog nutrition. They have an anti-inflammatory effect and have a beneficial influence on the condition of skin and coat.

- **zinc supplement** - due to a deficiency of this micronutrient

The interpretation was prepared by a qualified specialist in the field of animal nutrition, Pets Diag Laboratory.