Research Article

Healthcare

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The Methods Used for Diagnosing Canine Diabetes

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Abstract

Mellitus Diabetics is absence of insulin that it affects in body. A good amnesias, clinic sign, the percent of sugar in blood are so important for made a good diagnostification. For a good result we should apply glycosuria, the percent of sugar in blood and blood take from jugular's or encephalica vein, and in this case result was 13 diabetics dogs, 8 were female and 5 men at age 5-9 years old.

Introduction

With a prevalence of 0.32% to 0.64%, diabetes mellitus is one of the most common endocrine disorders in middle aged dogs, with a predisposition for female dogs [8,12,5]. The diagnosis of diabetes mellitus in the dog is relatively easy and based on three findings: typical clinical signs (polyuria, polydipsia, weight loss, polyphagia), and persistent fasting hyperglycemia and glycosuria [11,7]. The combination of persisting fasting hyperglycemia and glycosuria is essential for the diagnosis of diabetes mellitus. A thorough diagnostic work-up is mandatory to exclude or identify concurrent diseases. This work-up should minimally include a thorough physical examination, including oral inspection and ophthalmic examination, complete blood count, serum biochemistry profile, including thyroxine and canine pancreatic lipase immunoreactivity (cPLI) and urinalysis with culture. If available, an abdominal ultrasound is indicated [1,6,10]. Treatment consists of adequate insulin therapy, diet, regular exercise, ovariohysterectomy in intact bitches, discontinuation of medication that causes carbohydrate-intolerance, and treatment of concurrent inflamatory, infectious, hormonal or neoplastic disorders. An essential part of the therapy is maintaining or achieving an ideal body weight. The goal is to eliminate the owner-observed clinical signs, provide a good quality of life and prevent complications such as hypoglycemia[9,7,6]. The severity and duration of hyperglycemia are directly correlated with the clinical signs and the development of complications. Therefore, it is important to have an adequate insulin dosage and an appropriate monitoring to fine-tune the therapy [6,13]. Clinical signs are often suggestive and the diagnosis in dogs is readily confirmed by simple diagnostic tests.

Materials and methods

The study was focused at 5 clinics in the city of Tirana. The dogs presented to the clinics for various purposes, such as vaccination or other routine checks: physical examination, blood glucose measurement concentration, Glycosuria**.** During the period 2013 - 2017 as many as 3124 dogs of different breeds were an integral part of the study.

Technique

History and physical examination

Glycemic control can easily be assessed by evaluating the client's subjective opinion of the severity and evolution of the clinical signs (polyuria, polydipsia, polyphagia, overall health) of his/her dog [9,16]. The veterinarian should instruct the owner to measure the dog's water intake, to document trends in urination frequency, body weight, activity, appetite and vision changes. During the first few months, weekly calls from the owners should be encouraged and ideally they should keep a logbook to help with the long-term monitoring [1,14]. The most reliable clinical parameters are the absence or presence of polyuria, polydipsia, lethargy and weakness. The follow-up of body weight in the medical record is of the utmost importance. Unexpected weight loss and the presence of ketonuria are indicators of poor control. However, their absence does not rule out a poor control. The presence of hepatomegaly or cataract is a poor indicator of the current glycemic control [2].

Glycosuria

Urine can readily be obtained in dogs; if necessary, a long-handled cup or a flat pie pan may facilitate the collection [9]. Glycosuria (and ketonuria) can easily be determined semi-quantitatively with a dip stick. In a well-controlled diabetic dog, the absence of glycosuria alternates with periods of glycosuria throughout the day. If used, the interpretation should be based on multiple measurements throughout the day or measurements made over three consecutive days to monitor the trend [1,6,13]. Advises daily checks during the initial treatment period, and once the animal is well regulated, this can be reduced to once weekly [7].

Diabetes screening

Capillary or venous blood can easily be obtained from the ear with a lancet designed for finger-pricks in humans or a small-gauge needle. Subsequently, the glucose measurement is done with a PBGM device [3,14]. Pre-warming of the ear with a hair dryer improves the blood drop formation [15]. It is important that the owner feels comfortable with the procedure. There-fore, a gradual introduction to the idea of home monitoring, a good explanation of the technique and the possibility to contact the veterinarian if problems, are key to a successful outcome [3,13].

Single blood glucose measurement

A single glucose measurement can be performed with a point-of-care analyzer or a portable blood glucose measurement (PBGM) device. Blood can not only be collected through standard venipuncture of the vena jugularis or vena encephalica, but also by puncturing the ear veins [15,1].

Results and discussion

Between the years 2013-2017, we examined 3124 dogs and they age was 1-10 years old in different breeds, in this work are 1650 female and 1474 male. One part of the dogs that we made examination, they had some similar sign with diabet, therefore we separate to do one examination more detailed.

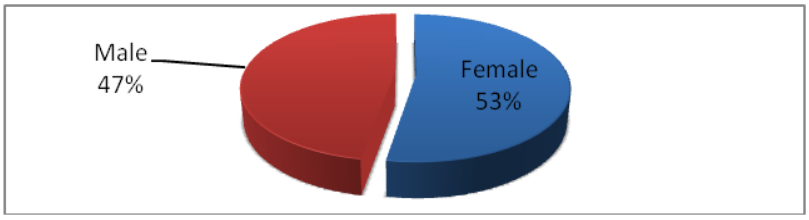

Figure 1: The ratio of male and female in this study.

42% of (1312) of all dogs that we examine were adult 5-10 years old, One part of all dogs that we put in experiment that were adult had problem with obesity/overweight 35% (459), polyuria 6% (78), polydipsia 4.8% (64), lethargy 2.1% (28), other problems 683 (52%).

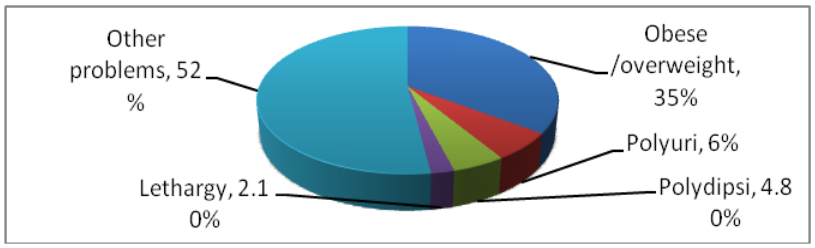

Figure 2: The ratio of dogs with diabetes-like signs.

Other dogs had other problems like cardiac problem, respirator system problem and skin problem and all dogs that had diabetics problem we took care for more special analyses.

Glycosuria is first technique, we made urine examination with indicator and result was 13 diabetic dogs. We obligate to take blood samples from dogs, just to measure the percent of sugar in blood using the different devices like ear drilling to have a clear conclusion.

This is a simple technique for every one who can do in his home, all owners can measure the percent of blood every 30, 60, 90, 120, 180 minutes, all results were more high 120 mg/dl.

From all results we saw that we are convince that all dogs that we examine are all diabetic, also we made one more examination for see if for any reason, in this result influent stress, or mistake from the owner when he took the blood for examination or any problem from blood apparatus.

So to be successful in result all sample of blood should take from jugulars or encephalic vein.

All sample of blood that we took from 13 dogs were positives and glycosuria was more than 120 mg/dl. From 13 dogs, 8 were female and 5 are male.

Table 1: The ratio of diabetic dogs.

Total	3124	Diabetics
Female	1650	8
Male	1474	5

Conclusion

One important aspect to diagnosticition is to take a good amnesia and to do all clinic examination and different test and to clear all doubt situations for diabetic problems. But with Glycosuris test and to measure the percent of sugar in blood we conclude that we had 13 diabetics dogs, and 8 of them were female and 5 male at age 5-9 years old.

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