

Dietetic approach to the treatment of diabetes mellitus in cats

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The syndrome known as « diabetes » is characterised by a glucose intolerance and an absolute or relative lack of insulin.

Diabetes is one of the most common endocrinopathies in cats, second after hyperthyroidism. The prevalence is estimated to be between 1 in 100 and 1 in 400.

Several factors influence the development of diabetes such as genetics (Burmese, Siamese), gender (male>female), environment and lifestyle (obesity).

The owner might find the symptoms difficult to pinpoint: polyphagia, weight loss, polydipsia, polyuria and sometimes skin fragility syndrome and xanthoma. Complications can occur such as polyneuropathy (hock walking).

Diabetes mellitus can be classified into type 1, type 2 and some authors talk about a type 3 which is in fact a consequence of the disease or side effects of some drugs. Type 1 or “insulin dependent diabetes mellitus” is due to a loss of insulin secretion due to immune mediated destruction of the pancreatic β -cells. It is the commonest diabetes in dogs but is rare in cats. Type 2 is comparable to the “adult diabetes” in man and is the commonest in cats. It is characterised by a combination of both inadequate insulin secretion and an impaired insulin action. This condition can be reversible. There is also a close association between obesity and diabetes in cats. The insulin resistance of obesity is linked to the down-regulation of the insulin receptors in cell membranes, the reduced binding affinity of insulin receptors and the intracellular postreceptors defects in glucose metabolism.

The hyperglycaemia can be difficult to assess in cats because of the important fluctuation of the glucose level in cats (stress hyperglycaemia up to 20 mol/L). The treatment is also difficult because of the carnivore nature of the animal and its feeding pattern (nibbler, “little and often”).

Recent studies have shown that the old dogma applied to cats by simply carbon copying the diabetic dog or human’s alimentary recommendations is inaccurate.

A high protein low carbohydrate diet has proven to be the ideal food for diabetic cats. Starch should have a slow absorption index and some fibres like psyllium (mucilage) will slow down the glucose absorption by regulating the transit. The addition of insulin promoters such as L-arginine is also beneficial.

At a later stage, the cat can become anorexic. It is important to provide a very palatable diet. The practitioner should provide follow-up and support to the owners who are having to give regular insulin injections. This can be stressful both for themselves and their pet.

Further reading:

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