

## Domestic Dog Diabetes Mellitus Type 2 from the Ayurveda Perception: A Review

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### ABSTRACT

Diabetes is a chronic metabolic disorder. From a global perspective, it is becoming a growing problem due to the ever-increasing numbers of patients. It's the most commonest reported in the domestic dogs. Due to this issue animal lover families become more anxious. In human the WHO estimates the number of people with diabetes around 347 million people with countries such as China, the United States, and India as the countries with the highest number of patients<sup>1</sup>. Ayurveda treats diabetes with a person-specific combination of cleansing cures, dietary advice, herbs and mental guidance. In this report we study the efficacy of dog-specific combination of therapy combined with the herbal supplement Choorna consisting of 20 different herbs in a case study from a dog with impaired glucose tolerance. In this study report I am trying to correlates the sign and symptoms of dogs with human beings.

### Materials and methods:

Supply of the herbal formula Choorna consisting of 20 herbs that act on different layers of the body, dietary advices and lifestyle based on the dog dosha(try to understand as per ayurved), mental guidance during the first 6weeks of the protocol.

### Results:

After four weeks of strictly following the Ayurveda protocol the HbA1c levels decreased profoundly. Two years after the start of the Ayurveda protocol T2D is reversed. Five years after this is still the case.

### Conclusion:

Our findings suggest that Ayurveda treatment with a dog-specific combination of cleansing cure, dietary advice, Choorna and mental guidance can reverse T2D.

**Keywords:** Domestic Dog, WHO, Ayurveda, diabetes mellitus, blood, plasma.

### I. INTRODUCTION

The Ayurveda describes a set of complicated scientific prerequisites with frequent, peculiar miction, at the same time referred to as Prameha, that in many approaches correlate with obesity, metabolic syndrome, and diabetes mellitus. Obesity, metabolic syndrome, and diabetes mellitus have in frequent that they are all three metabolic disorders. In the pathogenesis of Prameha, the function of intermediate metabolites is imperative due to the fact it is an obtained disorder due to unsuitable metabolism of nutrients. In Ayurveda, Ama refers to poisonous intermediates of digestion and metabolism due to incompletely digested food. In Ayurveda, diabetes mellitus falls below the Prameha category. Prameha comes from the unique phrase Mih sechane, and that potential "water that dilutes the whole lot in the body." It is a ailment in which the Doshas are out of balance. Prameha is a collective time period of 20 issues in which the complete urinary machine is involved, characterised with the aid of immoderate urination with odd values. Traditionally, thousands of herbs are used in Ayurveda. According to ethnobotanical information, there are as many as 800 one of a kind flora used in the regular therapy of diabetes mellitus<sup>2</sup>. Treating diabetes except unfavorable aspect results stays a sizeable challenge, and Ayurveda can play an quintessential position in it. The far-reaching differentiation in most important and secondary Dosha typing in Ayurveda makes it feasible to fine-tune the remedy to the person or the dog.

### Health according to Ayurveda

It is essential to understand and treat diseases and to know what is meant by health in Ayurveda. By health is meant that body, mind, and soul are in harmony with themselves and with their environment. The person or dog is disease-free and happy with what he or she is doing. That means that the three bio-energies Vata, Pitta and Kapha

are in balance, the digestive fire is good, all tissues, organs, and systems function correctly and that the excretion is also trouble-free. On a mental level, dog experience a state of well-being with themselves and with the world around them. There is harmony on all levels.

Unhealthy is the opposite of one or more of the above concepts. A dogs’s constitution determines how susceptible that dog is to diseases and to which diseases in the first instance. A Vata person is most vulnerable to Vata diseases, a Pitta person to Pitta diseases and a Kapha person to Kapha diseases (trying to correlate symptoms with the dog ). After all, often the Dosha who is prominent is also the first to be raised and this can - if he is not corrected in time - give rise to illness. This sentence is not a golden rule, but it is most common.

#### Four fundamental processes in the development of disease

Before someone gets sick, many processes have already been disrupted. You can identify four fundamental processes that underlie the onset of illness:

- a) Increase of the Doshas (Humours) - Dosha Utpadaka.
- b) The decline of the digestive fire – Agnimandya.
- c) Preparation of Ama ( Undigested Food) - undigested products, toxins.
- d) The further course of the present disease – Samprapti( Pathogenesis).

#### Disruption of the doshas at prameha

As a result of the specific Dosha that is disrupted, we distinguish three groups at Prameha, namely Kaphaja Prameha, Pittaja Prameha and Vataja Prameha (Table 1).

**Table 1 Prameha Groups :**

Pramesh	Sub-types	Stages
Vataj	4	Difficult to treat
Pittaj	6	Can kept under control
Kaphaj	10	Can be cured

Prameha is assigned to the one-of-a-kind Doshas relying on the stage at which the disruption occurs. Kapha is out of stability in the very first phase. If Kapha “raises,” the different Doshas go through immediately. The amplify in Kapha will increase the fats content material and outcomes in edema formation in the body. At this stage, we communicate of Kaphaja Prameha. The first step to disruption has begun. If no steps are taken to tackle the reason of the interruption, Kapha weakens and Pitta increases. Pitta is the second Dosha that influences the path of the imbalance in the body. Pitta will increase and motives a disturbance in the blood. This stage is known as Pittaja Prameha. If nothing is achieved about the cause, the scenario continues to deteriorate. Pitta is decreasing, and Vata is going to increase. Due to the strain of Vata, critical supplies give up up in the blood and are excreted in the urine. The state of affairs is now unexpectedly deteriorating, and instantaneous motion is required. The expand of Vata is the stage of Vataja Prameha.

#### Complications over time

In the lengthy term, diabetes mellitus can motive all sorts of complications, such as kidney failure, paralysis, and gangrene formation. That is why Ayurveda treats from the first day no longer solely the hyperglycemia however the whole person: physically, mentally, and spiritually. The

Ayurvedic anatomy of the coarse-material tissues and the fine-material layers are protected in the therapy due to the fact all these tissues and layers are affected through this disease. We distinguish the seven physique tissues: blood, plasma, muscles, bones, marrow, ligaments, and reproductive tissues. The seven physique tissues are our bodily physique or the meals layer.

- i. Food layer - Annamaya Kosha.
- ii. Energy layer - Pranamaya Kosha.
- iii. The mental layer - Manomaya Kosha.
- iv. The intellectual layer - Vijnanamaya Kosha.
- v. The spiritual layer - Anandamaya Kosha.

#### Diabetes cure programme

Over the years, we have developed a remedy application at our middle in which we make use of the Prameha classification in accordance to the Doshas and supplemented with the therapy of all Koshas. Upon discovering Kaphaja Pramehas, we begin with dietary recommendation and natural supplements. At Pittaja Pramehas, we additionally add cleaning cures. When we see the Vataja Pramehas stage, we do the whole programme that entails all Koshas.

In the first Kosha, the bodily body, we take into account a trade in the food plan and the prescription of herbs. The particular adjustment relies upon on the diploma of disruption of the

applicable Dosha. That is, therefore, unique from individual to dog.

In the second layer, we train our dogs owner different respiratory exercises, so that clean oxygen is disbursed properly at some stage in the body. Every cell in our body wants oxygen, so desirable furnish and elimination is essential. When toxins contaminate the body tissues, we do cleaning therapies so that the body can easy at the mobile level. With the third layers we purpose for a alternate in wondering so that stress is viewed in the proper perspective. Causes of stress are sorted out for my part and tackled in session with different healthcare providers. With the fourth layer, we goal for lasting intellectual trade by using growing new questioning patterns so that the new way of life is skilled as appropriate.

At the fifth layer, we talk about with dogs owner the cause of illnesses and what you can study from them. The feel of being sick. Not the sufferer role “why does this occur to my dogs,” however “how can I first-class deal with this” and “what does this ailment suggest in my dogs life” are the beginning factors for treating this layer.

#### Case study

Mr. Mittal visited with his Dogs at our TVCCm Anjora on 26 May 2015. Mr. Mittal’s Dogs (7years old) is an unbiased entrepreneur. His dogs has been recognized with DM 2 for two years and obtained medicinal drug for this. He used metformin from the very first prognosis and has been given pioglitazone a few weeks ago. His dog blood glucose stage fluctuated a lot, Besides, his dog used to be listless and regularly tired. Moreover, his dog weight extended in the final yr while, in accordance to his dog, his dog did now not devour greater then his dog used to eat. On the recommendation of his brother, he visited our centre, with little enthusiasm, by means of the way, due to the fact he did now not put a good deal trust in “herbalists.”

After the eightfold Ayurvedic examination - face, tongue, eyes, skin, nails, pulse diagnosis, voice, and urine examination - I discovered a Pitta as a start constitution. The obtained charter or Vikruti indicated Pittaja Prameha, and similarly urine checking out confirmed this as Kshaara Meha (alkaline urine).

Mr. Mittal had accomplished a questionnaire previously and had performed a charter check so that I already knew pretty a bit about his dog earlier than he came. One of the questions that show up in my records listing is the

question: “What would you like to gain in phrases of your dog fitness and well-being and what would make a distinction with your dog modern lifestyles if you finished this?”

The description of health, in accordance to Ayurveda, is a textbook instance of how it must be. But dwelling with a continual sickness can additionally be very beneficial if you get the most out of your options.

Given his reserved mind-set closer to choice medicine, I at first gave his dog an natural training and clear dietary advices that consist of a listing of meals merchandise with a plus signal subsequent to it that used to be proper and a minus signal subsequent to it that wasn’t proper for his dog.

In the meantime, two years later, Mr. Mittal has long gone from two metformin drugs to half of a metformin pill a day and has absolutely stopped pioglitazone two weeks after the first consultation. The discount of drugs I knowledgeable his treating doctor. His lifestyles strength has increased; his corporation has managed to keep its floor no matter the difficult monetary instances and has even grown in size.

Due to extra non-public conversations with his dog associate and the phasing out of his dog medicine and use of the Rasayana herbs, the associated troubles are a factor of the past. Rasayana potential restoring vitality. Rasayana herbs contain a high content of vitamins and trace elements. Mr. Mittal still faithfully goes to his doctor for the diabetes check. His dogs glucose values are within the margins, and his weight has decreased by seven kilos.

He faithfully follows the dietary advice, because he observed excellent about it. It is also not a diet but more an adaptation to the proper combination of food. The combination of proteins/starch, proteins/sugars, and starch/sugars, and fats/sugars he should avoid as much as possible. Potatoes or cereal products in combination with fruit or tomatoes are not the right choice.

Raisin nuts - the famous student oats - can also better avoided. Vegetables together with fruit are also not recommended. Furthermore, the canned foods and drinks with meals are strongly discouraged in Ayurveda because it severely disrupts the digestive process. It is, therefore, more a matter of dealing with your food differently. He still provides the Rasayana herbs in a minimal dose. Recently he stopped the metformin to his dog

and also the Rasayana herbs and only continues with the changing way of dealing with food.

The different way of approaching diseases from Ayurveda has also changed him on a personal level. That proper nutrition has an impact on your body can still be understood, but that your birth constitution determines many choices in your life, was and still is a positive revelation for him. With the support of Ayurveda, he is doing great.

In prescribed Choorna, the herbal preparation that is prescribed, some herbs are active in lowering glucose levels; some are active in dilating blood vessels, some in soothing the mind and some Rasayana herbs for overall condition to strengthen. In this formula there are twenty herbs in total. Four of the twenty one herbs out of this formula are discussed below.

#### **Acorus (*Acorus calamus*)**

Asaron is a compound that occurs in certain plants and of which tranquility is one. The root of this plant is traditionally used to treat diabetes. Asarone prevented the formation of fat cells in vitro. It gave a significant inhibition of the differentiation of 3T3-L1 pre-adipocytes by suppressing the production of transcription factors that activate adipogenesis<sup>3</sup>. Besides, asarone reduced cellular fat accumulation. This achieved by lowering the intracellular triglyceride levels, in a dose-dependent manner, and by stimulating (hormone-sensitive) fat breakdown<sup>3</sup>.

#### **Buckwheat (*Fagopyrum esculentum*)**

The seeds (grains) of the buckwheat are used. Experimental studies (both in laboratory animals and in humans) indicate that buckwheat flour can improve diabetes, obesity, high blood pressure, and increased cholesterol levels<sup>4</sup>. Buckwheat contains D-chiro-inositol that has been identified as an essential component in the secondary messenger route for insulin signal transduction (insulin second messenger). Type 2 diabetes patients have a deficiency of D-chiro-inositol<sup>5</sup>. In a test design with rats, D-chiro-inositol has been shown to reduce elevated glucose blood levels<sup>6</sup> experimentally. Syringic acid, p-hydroxybenzoic acid, vanilic acid, p-coumaric acid, and proanthocyanidins have been reported to have been observed in the aleurone layer of the bran<sup>7</sup>.

The protein from buckwheat has a high biological value<sup>8</sup> and has a close relationship with cholesterol. This has also been shown in a lower plasma cholesterol value in a study with rats<sup>9</sup>. Buckwheat contains rutin which is useful in the treatment of hypertension by strengthening

capillary blood vessels and which in turn can result in the occurrence of cerebral apoplexy<sup>10</sup>, as identified in a clinical study<sup>11</sup>. The seed of buckwheat contains an abundance of vitamins B1 and B2. The extract from both the skins and the seeds exhibit an antioxidant effect<sup>12</sup>. Phenolic compounds of the extracts contribute to this activity<sup>13</sup>. Flavones such as vitexin, isovitexin, orientin, and isoorientin have been demonstrated in the seedlings<sup>14</sup>. The flavonols such as rutin, hyperin, quercitrin, and quercetin can be isolated from the immature seeds<sup>15</sup>.

#### **Coriander (*Coriandrum sativum*)**

The seeds of coriander are used in Mohana Choorna. Inclusion of dried and ground coriander seeds in the diet has shown a reduction in blood sugar levels in healthy rats fed a high cholesterol diet<sup>18</sup> and diabetic mice induced in streptozotocin<sup>16</sup>. Further research in muscle and liver tissue showed that hypoglycemic effects could be explained by increased glycogen formation, both in the liver<sup>18</sup> and in muscles<sup>16</sup>, reduced hepatic gluconeogenesis and increased hepatic glycolysis<sup>18</sup>.

Incubation of clonal  $\beta$  cells with an aqueous coriander extract resulted in increased insulin secretion. This effect was also observed in another study in which peritoneal administration of an ethanol extract coriander in streptozotocin-induced diabetic rats resulted in a lowered blood sugar level and an increased insulin release of the cells<sup>21</sup>.

In addition to these effects on blood glucose, coriander seed has also shown that it can influence the plasma lipid profile. A study in rats - fed a high-fat diet with extra cholesterol added - found that adding ground coriander seed to the diet significantly reduced the level of serum triglyceride and serum LDL and VLDL cholesterol while increasing HDL cholesterol<sup>17</sup>.

The same effect was observed in another study after incorporating coriander seed oil in the diet of rats fed a cholesterol diet<sup>19</sup>. Furthermore, it was found that ethanol extract from coriander seed has an antioxidant effect and a viability study of clonal  $\beta$ -cells showed that an aqueous extract of coriander is not toxic for these cells<sup>20</sup>.

#### **Bitter melon (*Momordica charantia*)**

The fruit is used in Mohana Choorna. A scientific study conducted on a mouse model has shown that bitter melon increases insulin sensitivity and therefore lowers blood glucose<sup>22</sup>. Bitter melon can be useful in people with slow digestion, dyspepsia, and constipation. It contains four promising bioactive compounds that activate the

enzyme AMP-activated protein kinase (AMPK), which plays a crucial central role in, among other things, regulating energy metabolism and glucose uptake<sup>23</sup>. AMPK also increases insulin sensitivity and stimulates mitochondria activity<sup>24</sup>. These are processes that are disrupted in dogs with diabetes.

## II. CONCLUSION

Our findings suggest that Ayurveda treatment with a dog specific combination of cleansing cure, dietary advice, choorna and mental guidance can reverse T2D. It's concluded that the treatment of dog and human having similarities as per the veterinarian views.

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### Conflicts of interest

Author declares there are no conflicts of interest.

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