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ORIGINAL RESEARCH ARTICLE

EFFICACY OF VAMANA KARMA (EMESIS THERAPY) IN PRE-DIABETES AND TYPE-II DIABETES MELLITUS: A PILOT STUDY

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Abstract

Background: Diabetes and its complications pose a major threat to future public health resources throughout the world. Based on a compilation of studies from different parts of the world, the World Health Organization (W.H.O.) has projected that the maximum increase in diabetes would occur in India. Though, the discovery of Insulin and other hypoglycemic drugs has a great achievement of modern medical science, but the hazardous side effects of hypoglycemic after long term used are incurable and hence an ideal therapy is still obscure. The Ayurvedic management of Diabetes aims not only to achieve a strict glycemic control but also to treat the root cause of the disease. According to Charak, Sthula Madhumehi (i.e.Type II D.M.) should be managed by Sanshodhana karma (Panchakarma Therapy).

Aims & objectives: To study the efficacy of Vamana (Emesis) in various clinical conditions of Diabetes Mellitus and Obesity.

Material and Methods: The pilot study was conducted in 22 Obese individuals (Both patients and volunteers) where they were performed Vamana with classical methods.

Results: Significant decrease in the levels of S. Triglyceride and insignificant decrease in Fasting Blood Sugar, Serum Cholesterol was observed by Vamana Karma by Classical methods.

Conclusion: Emesis therapy has a better role in the prevention of NIDDM in pre-diabetic subjects and also capable of maintaining the long lasting glycemic control in NIDDM subjects.

Key Words:

Vamana Karma, Emesis, Madhumeha, NIDDM, Pre-diabetes

Introduction

Madhumeha (~Diabetes Mellitus) has been classified under the Vatika type of Prameha. The Vata may be provoked either directly by its etiological factors or Avarana by Kapha and Pitta to its path or by continuous depletion of Dhatus. The factors which provoke the Vata directly cause Apatarpanajanya Madhumeha while the factors which provoke Kapha and Pitta cause Santarpanajanya Madhumeha. The Apatarpanajanya Madhumeha is equivalent to Type I Diabetes mellitus, while the Santarpanajanya Madhumeha is equivalent to Type II Diabetes mellitus. In Madhumeha, the main Avaraka are Kapha, Pitta, Rasa, Mamsa and Meda, and out of these Meda is predominant.

Charaka says that etiological factor first causes the provocation of Kapha because of the close resembles to the related hetu (Etiological Factors). In the person eating heavy, unctuous, sour & saline substances in excessive quantity and also the new grains & fresh drinks, having over sleep & sedentary habits, having abstained from physical & mental work and also neglecting evacuation, Kapha, Pitta, Mamsa and Meda Dhatu aggravate excessively & they all obstruct the path of Vata which carries the Ojas to Basti (Urinary Passage) and thus the obstinate Madhumeha (~D.M.) arises. It shows the symptoms of Vata, Pitta & Kapha now and then after diminution again develops[1]. On the other hand the vitiated Kleda gets converted into Mutra. The Kapha along with Meda and

Kleda covers the openings of mutravaha Srotasa resulting into Madhumeha[3].

According to Charak, Sthula madhumehi (~Type II D.M.) should be managed by Sanshodhana karma. First of all internal Snehan should be done, by which Vata Dosha is suppressed. Then Avaraka Malas (i.e.kapha & pitta) should be eliminated through nearer route by Vamana followed by Virechan[5]. Vagbhata and Sushruta mentioned that after the ingestion of medicated oil or Ghrita, Teekshna Vamana Karma should be done with due consideration of strength of the patient[9&12]. In Avaranajanya Madhumeha or the Sthula Madhumeha patients, the Shodhana therapy has been recommended before the administration of the Shamana drugs because the excessively vitiated Doshas cannot be alleviated by Shamana Chikitsa alone. In the patients of Madhumeha, the Kapha and Pitta are vitiated excessively and they remain lying in the kostha of the body. This is the rule that the Dosha should be eliminated through the nearest passage[11]. As drava rupa kapha is the main Avaraka & cause of Prameha ("Bahudravah Slesmaa Doshavishesah''[2], Vamana is the appropriate Shodhana procedure for Type II Diabetes mellitus.

In modern medical science, symptomatology of Madhumeha is equivalent to the features of Diabetes mellitus. Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in Insulin secretion, Insulin action or both. Several pathogenic processes are involved in the development of diabetes. These range from autoimmune destruction of the β-cells of the pancreas with consequent Insulin deficiency to abnormalities that result in resistant to Insulin action. The basis of abnormalities in Carbohydrate, fat and protein metabolism, in diabetes is deficient action of Insulin on target tissues. Impairment of Insulin secretion and defects in Insulin action frequently coexist in the same patient and it is often unclear which abnormality, if either alone, is the primary cause of hyperglycemia[15].

The excessive growth hormone and peculiar metabolism both may be associated with diabetes especially in Kaphaja Prameha pathogenesis. Growth hormones mainly stimulate and maintain the growth of the body and so this action can correlate with the Slaishmika activity in the body. Overweight in pre-diabetic has been observed to be associated with hyperinsulinism. Hyperinsulinism serves as a cause and effect of obesity. The over eating is associated with obesity. So to keep the glucose metabolism within normal limits there is more and more secretion of insulin. This again causes overeating and at last formation of adipose tissue regulated by growth hormone. FFA cycle can be correlated with Abaddha Meda Dhatu (adipose tissue), which has been mentioned by Charaka that it acts on Mamsa (muscle tissue) increasing the volume of Sharira Kleda (body fluid). FFA level is high along with high blood sugar in diabetic patients. In them, the glucose level does not fall till the FFA level get down because as long as FFA is available in excess, it is utilized in energy metabolism in place of glucose. So the glucose entry in muscle cells is retarded even with availability of sufficient amount of insulin. Thus, FFA acts as insulin antagonist. FFA is produced by breakdown of adipose tissue (Meda Dhatu) and as it is soluble form of fat, can be regarded as Abaddha Meda. Excessive formation of FFA is due to stimulation of Lipase enzyme by growth hormone and plasma cortisol stimulation. So, we can easily understand the role of Bahudrava Sleshma (Growth hormone) responsible for lipolysis increasing the Abaddha Medas (FFA) in the pathogenesis. Because of FFA utilized for energy metabolism the glucose is retained in the blood. The high level of glucose in blood being hydremic in nature, retain high amount

of water which has been described as Sharira Kleda. This excess water in blood (Sharira Kleda) caused diuresis and permission of urine (Mutra). Thus, Kaphaja Prameha can be correlated with disturbed glucose-fat-metabolism leading to hyperglycemia and glycosuria (i.e.Madhumeha). Over secretion of Pituitary Growth hormone plays important role in insulin antagonism, both through FFA secretion and directly by providing specific inhibitors of insulin action.

Aims and Objects

To study the efficacy of Vamana in pre-diabetes and type-II diabetes mellitus subjects.

Materials and Methods:

Selection of patients:

Total 22 Obese patients were selected irrespective of sex, religion, occupation etc. from O.P.D. and I.P.D. of Panchakarma Hospital of I.P.G.T. and R.A, Jamnagar and they had performed Vamana by classical methods according to Charaka and Sushruta Samhita[6&10].

Study setting:

The study was carried out at Panchakarma Hospital of I.P.G.T. and R.A, Hospital, Jamnagar, from August-2004 to April-2004.

Preparation of Medicine: Madanphala pippali[14] was taken in Antarnakha Musti (making fist) Pramana by the patient's own hand. It was then added in Yastimadhu Kwath and kept for one night (Previous night of Vamana Karma). In the morning time, it was stirred properly and filtered. Then it was given to the patient in lukewarm state mixing with honey and Saindhav Lavana (rock salt) up to Pittanta Vamana (till bile is coming). Before that at first in early morning, Ghritayukta Yavagu was given to the patient after Abhyanga (massage) and Swedan (fomentation).

Inclusion Criteria

(1) Obese Patients as well as Healthy Volunteers who are fit for inducing Vamana Karma.

Results:

(2) Patients of Madhumeha (Diabetes Mellitus)

(3) Age between 16 – 60 years.

Exclusion Criteria

(1) Obese Patients who are contraindicated for inducing Vamana Karma

(2) Age below 16 years and above 60 years.

(3) Having fatal complications of serious illness.

Intervention:

Purva Karma (Preparatory Procedures): - 1) Snehapana (Ghee Intake) by Shudha Ghrita (Ghee) 2) Sarvanga Abhyanga (Whole Body Massage) by Bala Tail 3) Sarvanga Swedan (Whole Body Fomentation) by Baspa Sweda (Steam Bath) 4) Ghrita- yukta Yavagupana (Ghee Mixed with Boiled Rice) = 200 - 400 gms approximately according to Kostha etc.

Pradhana Karma (Main Procedures): - 1) Yastimadhu Kwath (Decoction of Glycyrrhiza glabra) = 3 – 5 liters approximately 2) Madanphala Pippali[14] (Seeds of Randia dumetorum) = Antarnakha Musti Pramana (Quantity present in Fist) according to patient's own hand. 3) Honey = Q.S. (50 - 100ml approximately) 4) Saindhav Lavana (Rock Salt) = Q.S. (20–30gms approximately).

Paschata Karma (Post Operative Procedures): - Samsarjana Krama (Dietic Regimen) was according to the Shuddhi (Proper Elemination of Dosas (toxins)) after Vamana Karma.

Follow Up

Follow up study was carried out for 2 weeks after completion of Vamana.

Criteria for Assessment:

Improvements in the laboratory investigation were assessed to exclude pathology and for overall assessment of therapy before starting Snehapana (Ghee Intake) and after completion of Paschata Karma (i.e. Samsarjana Krama/Dietic Regimen).

Sex	Volunteers	Diseased	Total	Percentage
Male	4	16	20	91%
Female	1	1	02	09%

Table – 1 Sex wise distribution of 22 subjects

Maximum 45% patients as well as Volunteers are of age group 21-30 years, 32% are of age group 41-50 years, 09% are of age group 31-40 & 51-60 years and minimum 05% are of age group 16-20 years (See table no. 2).

Age group (Years)	Volunteers	Diseased	Total	Percentage
16 – 20	0	1	01	05%
21 – 30	4	6	10	45%
31 - 40	0	2	02	09%
41 – 50	1	6	07	32%
51 - 60	0	2	02	09%

Table – 2 Age wise distribution of 22 subjects

The Table No. 3 reveals that maximum 59% patients as well as Volunteers have B.M.I. >25 and 41% has B.M.I. <25.

Pramana (B.M.I.)	Volunteers	Diseased	Total	Percentage
B.M.I. > 25	1	12	13	59%
B.M.I. < 25	4	5	09	41%

Table – 3 BMI of 22 Subjects

Vamana Karma provided statistically significant reduction (P<0.05) in S. Triglycerides by 21.66%, while it lowers the Fasting blood sugar level by 4.31% which is statistically insignificant (P>0.05). Whereas it provided statistically insignificant reduction (P>0.05) in the S. Cholesterol level with reduction of 4.99% (see table no.4).

Biochemical Values	Mean Score		S.D. (±)	S.E. (±)	" t "	" p "	% Relief
	B.T.	A.T.					
F.B.S. (n = 22)	91.61	87.66	12.92	2.75	1.43	> 0.05	4.31↓
S.Cholesterol (n = 21)	200.33	190.33	34.93	7.62	1.31	> 0.05	4.99↓
HDL	42.60	36.09	11.31	2.46	2.64	< 0.05	15.28↓
Triglycerides (n = 22)	158.67	124.31	75.40	16.07	2.13	< 0.05	21.66↓

Table – 4 Effect of emesis on Biochemical parameters

Discussion:

Vamana (Emesis) is a very stressful work which is done in very early morning. Plasma Cortisol level is increased after Vamana karma (as the highest level of cortisol occurs in early hours of morning & in stress, strain with anxiety condition) [16]. This cortisol causes hyperglycemia by promoting gluconeogenesis

& causes increased protein catabolism with rise of plasma amino acids. This raised blood glucose & plasma amino acid stimulate insulin secretion (synthesis of more insulin & release of the stored insulin from β cells) by substrate regulation, which is a secondary effect.

The emetic drugs used in Vamana on reaching stomach, stimulate the gastric mucosa along with stimulation of Vagus Nerve & Sympathetic nerve fibres. As both vagus (parasympathetic) & sympathetic nerve fibres supply the islets cells, stimulation of both fibres by vamana karma cause stimulation of β receptors followed by insulin secretion by neural control.

Again these drugs also stimulate gastric muscles, diaphragm, GIT & increase peristalsis, by which the gastrointestinal hormones like gastrin, cholecystokinin, pancreozymin & secretin are secreted. These hormones stimulate insulin secretion by hormonal control.

Conclusion:

Vamana (Emesis therapy) by classical method caused significant decrease of S. Triglycerides and insignificant decrease FBS as well as S.Cholesterol with loss of 3-5kg weight were observed. So it can be concluded that emesis therapy has a better role in the prevention of NIDDM in pre-diabetic subjects and also capable of maintaining the long lasting glycemic control in NIDDM subjects.

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