

Effect of *Vaman* in *Sthula Madhumeh* and its impact on HOMA IR

Case Report

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Abstract

Background: Diabetes Mellitus is the most common metabolic disorder encountered in clinical practice. It is strongly linked to obesity. Diabetes mellitus is characterized by abnormal carbohydrate and lipid homeostasis leading to elevation in plasma glucose or hyperglycemia. Diabetes can be related with *Madhumeh* (type of *Prameha* in which there is *Madhurta* of *Tana* i.e. body), which has been explained in Ayurvedic Samhitas. *Prameha* is especially characterized by *Prabhut Matra* and *Avilata* of *Mutra* with several abnormal qualities due *Doshik* imbalances. Charak concluded that if *Prameha* is not treated it ultimately progresses to *Madhumeh*. There is *Madhurata* of *Mutra* and *Tanu* in addition to polyuria. Charak classified *Madhumeh* of two types according to management viz *Sthula* and *Krishna*. *Madhumeh* is a disease in which excessive *Santarpana* is there. According to Vagbhata, *Madhumeh* is caused due to two causes such as *Margavrodh* and *Dhatukshay*. According to Charak depending on *Brimhan Chikitsa* is advised in patients having *Krish Madhumeh* with respect to its *Bala*. While *Shodhan* is indicated in the patients having *Sthula Madhumeh*, hence *Vaman* in the form of *Shodhan Chikitsa* is considered along with *Nidanparivarjan* to stabilize the increased *Kapha* (*Bahu Drava*) and *Kleda*. Observations and results obtained during this case were encouraging and assessed on different parameters which are presented in full paper.

Key Words: *Sthula madhumeh*, *Pachana*, *Triphaladi tailpana*, *Vaman*, HOMA-IR.

Introduction

Type-2 diabetes occurs due to impaired insulin secretion, peripheral insulin resistance, and excessive hepatic glucose production. Insulin resistance impairs glucose utilization by insulin sensitive tissues and increase hepatic glucose output, both these effects contribute to the hyperglycemia. Increased hepatic glucose output predominantly accounts for increased fasting hyperglycemia, whereas decreased peripheral glucose uptake results rise in postprandial hyperglycemia (1). In Ayurved Acharya Charak has classified *Prameha* in two types i.e *Sthula Pramehi* and *Krishna Pramehi* *Santarpanjanya* and *Apatarpanjanya Prameha* it can also correlate with the classification given by Acharya Vagbhat, i.e *Dhuatukshayjanya* and *Avarodhjanya Prameha* respectively the factors which provokes the *Vata* directly cause *Apatarpanjanya Prameha* while the factor which provoke *Kapha* and *Pitta* cause *Santarpanjanya Prameha*. In *Avaranajanya Prameha*, *Kapha* is predominant *Dosha*, while the important *Dushyas* are *Bahudravasleshma* and *Bahuabaddhameda* are the basic pathological factors

for *Prameha*. In *Avaranjanya Samprapti*, vitiated *Kapha* and *Pitta* obstruct the path of *Vata*, causing its provocation. *Samshodhana* is base treatment for the elimination of *Doshas*.

Case Report

A 49-year-old female patient having following complaints was came in OPD and admitted IPD of Kayachikitsa Department, Government Ayurved College, Nagpur.

Chief Complaints

Atikshudha, *Sharirbharvridhi*, *Sharir Gauravata*, *Ati-Sveda Pravritti*, *Ubhaya Padatala Daha*, *Daurbalya*, *Ubhay Janusandhishula* and *Asamyak Mala-Pravritti* Since last 5 years and Aggravated in last 4 month.

History of Present Illness

Patient was healthy before 5 years. There was gradual increase in above symptoms, but above symptoms were aggravated in last 4 month. So for treatment, patient came to Kayachikitsa OPD and was admitted in Government Ayurveda College and Hospital, Nagpur for further treatment and management.

Past History

- Known case of Hypertension since last 2 years
- Known case of Diabetes mellitus 4 months. (on irregular medications)

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Present Medicinal History

- Tab. Telmiking-H (Telmisartan 40 mg+ Hydrochlorothiazide 12.5mg) 1OD

Family History

- Matruj Kula: Mrit H/O Throat Cancer.
- Pitruj Kula: Mrit H/O DM II.
- Past Surgical History: H/O: Tubectomy done 22 years ago in G.A.C.H. Nagpur
- *Ashtavidha Parikshan*: WNL except *Asamyak Mala Pravritti*, *Atimutra Pravritti*, *Jivha Samata*, *Sthula Akriti* (Wt- 65 kg, Height:150 cm and BMI:28.9)

Vikrut Strotas Parikshan

- *Strotas Parikshan* WNL Exept,
- *Udakvaha Strotasa*: *Ati-Pipasa*,
- *Annavaha Strotasa*: *Jivha Samata*,
- *Rasavaha Strotasa*: *Tandra*, *Gauravata*, *Angamarda.*,
- *Mansavaha Strotasa*: *Sakashta Chankramana*,
- *Medovaha Strotasa*: *Stanodar Lambanam*, *Sharirbhar Vriddhi*, *Ubhayadatal-Daha*,
- *Asthivaha Strotasa*: *Ubhaya Janusandhi Shula*.
- *Purishvaha Strotasa*: *Asamyak Mala-Pravritti*,
- *Mutravaha Strotasa*: *Ati-Mutra Pravritti*,
- *Svedavaha Strotasa*: *Ati-Sveda Pravritti*.

Investigations: 24/02/2020

- CBC: WNL, Urine Routine and Microscopic Examination: WNL.
- BSL: Fasting-124 mg/dl, PP-231 mg/dl, ECG: WNL.
- Lipid Profile: Total Cholesterol 188, HDL: 40, Triglyceride -101, LDL:101
- Sr. Insulin(F): 16.89, HOMA-IR (2): 5.21

Management

- Initially *Pachan Chikitsa* was given 40 ml *Pachhatbhakta* is given as a *Pachana* for 5 days.(3)
- Then, *Snehapana* (4) with *Triphaladi-Tail* (5) in *Vardhamana Matra* at morning empty stomach for 7 Days till patient showing *Snehapana Siddhi-Lakshana*, (6) *Snehan-Svedan* (Rest Day) (7) was given on 8th day and on the day of *Vaman*, then *Vaman Karma* At morning on day of *Vaman*,

Sarvanga Abhaynga with *Til Taila* and *Peti Svedan* was given. Then *Vacha Siddha Dugdha* 200ml was given, *Chatan Dravya* as *Yastimadhu* 10gm, *Madanpiappali* 5 gm, *Vachachurna* 2.5 gm, *Saidhav* 5 gm, *Pippalichurna* 2.5gm and *Madhu* as per need then *Madanphala Pippali Yastimadhu Phanta* given for *Vamana*. After *Vaman*, *Paschat Karma* (8) *Dhumapana* is given With *Haridra* and *Ajvayan*

- *Shuddhi*: *Pravar*, *Antiki*: *Pittanta*, *Laingiki*: *Daarbalya*, *Udarlaghavata*,
- *Sansarjana Kram* (9) is given for 7 days as explained in Ayurvedic Literature.

Observation and Results

Table-1: Table showing Effect of Therapy on Blood Sugar Level and Sr. Insulin

Date	25/02/20 (Before Treatment)	14/03/20 (After Samsrjan-Krama)
Fasting	124 mg/dl	98 mg/dl
Post-Prandial	231 mg/dl	130 mg/dl
Serum Insulin	16.89 mlU/L	12.9 mlU/L
HOMA-IR	5.21	3.12

Table-2 Table showing Effect of Therapy on BMI

Date	Ht	Wt	BMI 9(Kg /m ²)	Waist	Hip	W:H Ratio
25/02 /20	150 cm	65 kg	28.9	84 cm	105 cm	0.8
14/03 /20	150 cm	59 kg	26.2	82 cm	103 cm	0.79

Table- 3 Table showing Effect of Therapy on Lipid Profiles

Date	25/02/2020 (BT)	14/03/2020 (AT)
Total Cholesterol	188 mg/dl	178 mg/dl
L.D.L	127.8 mg/dl	117.6 mg/dl
H.D.L	40 mg/dl	38 mg/dl
Triglyceride	101 mg/dl	112 mg/dl

Table-4 Table showing Effect of Therapy on Signs and Symptoms (10)

Symptoms	Gradation	Male	Female	Grade	BT	AT
Unexplained Weight gain	Weight gain>6kgs.than max range for BMI 23			3	3	2
	Weight gain 3-5kgs.than max range for BMI 23			2		
	Weight gain 1-2kgs.than max range for BMI 23			1		
	No Weight gain			0		
Shithilangata	Abdominal girth	>102cm	>88cm	3	3	2
	Abdominal girth	>98-102cm	84-88cm	2		
	Abdominal girth	94-98cm	80-84cm	1		
	Abdominal girth	<94cm	<80cm	0		
Kshudhativridhi	Requires total 2 meals and heavy breakfast/extra meal still feels hungry.			3	3	2
	Requires total 2 meals and heavy breakfast/extra meal to satisfy			2		
	Requires total 2 meals and light breakfast/extra light meal to satisfy			1		
	Two meals a day with light breakfast satisfies hunger.			0		

Fatigue	Feeling of Tiredness for whole day	3	3	2
	Feeling of Tiredness for half day	2		
	Feeling of Tiredness for 6-8hrs a day	1		
	Never in a day	0		
Sheetpriyata, Svapna, Sukhe arati	Feels good while sleeping than lying.	3	2	1
	Feels good while lying than sitting.	2		
	Feels good while sleeping than lying.	1		
	Feels good while walking/ standing than sitting	0		
Kar Pada Suptata	Severe Continuous tingling sensation disturbs routine activity.	3	1	1
	Continuous tingling sensation that does not disturb routine activity	2		
	Intermittent tingling sensation that does not disturb routine activity	1		
	No tingling sensation	0		
Dantadinam Maladhyatvam	Very frequently infection occurs.	3	3	2
	Recurrency of infection is intermittent.	2		
	Recurrency of infections is occasional	1		
	No infection	0		
Kar Pada Daha	Severe burning sensation disturbs routine activity.	3	2	1
	Continuous burning sensation that does not disturb routine activity	2		
	Intermittent burning sensation does not disturb routine activity	1		
	No Burning Sensation	0		
Pipasativridhhi (Excluding environmental variation)	Require additional water >3litre more than normal still feels thirsty.	3	3	2
	Require two fold additional water than normal.(2.5-3lit)	2		
	Require more additional water than normal (2-2.5lit)	1		
	Daily normal quantity of water to quench thirst (<=2lit)	0		
Swedatipravritti (Excluding environmental variation)	Swedatipravritti at rest	3	3	2
	Swedatipravritti on little exertion	2		
	Swedatipravritti on more exertion	1		
	No Swedapravritti.	0		
Shitpriyatvam (Excluding environmental variation)	Require A.C./fan 24 hours.	3	3	2
	Requires A.C/fan 12hours	2		
	Requires A.C/fan 6-8hours	1		
	Requires no A.C./ high speed fans.	0		
Madhuryata	Feeling of sweet taste all while	3	2	1
	Feeling of sweet taste after eating <i>Madhur, Amla, Lavana</i> substances.	2		
	Feeling of sweet taste for considerable period only after eating sweet	1		
	No feeling of sweetness in mouth.	0		

Discussion

Prevalence of diabetes mellitus is rapidly growing throughout the globe at alarming rate, where India leads and might be a diabetic capital of world in future. Currently available conventional options for diabetes have certain limitations. Considering those limitations, alternative resources are being search to meet the need. Ayurved, the traditional system of Indian medicine has its own views. By virtue of fact of “*Madhuryat Cha Tanorata*” the disease is termed as *Madhumeh*. Though involvement of *Tridosha* is there, dominance of *Vata* is there. *Bahudravashleshma, Abaddha Meda* are predominantly involved along with *Rakta, Shukra, Ambu, Vasa, Lasika, Majja, Rasa, Oja* and *Mansa* (11) The main pathogenesis occurs due to the *Kleda Vriddhi*. There may be *Strotas Avarodh (Avritatva)*, or *Dhatu Kshaya* (12) so that pathogenesis is further enhanced by virtue of *Prakopa* of *Vata*.

In this case of *Madhumeh* patient was selected considering BMI more than 23 kg/m², it was 28.9kg/m² before treatment along with symptoms of *Kapha, Meda, Rasa* and *Rakta Dushti*. Accordingly, treatment was planned and *Vaman* was administered with prior *Pachana* proceeded by *Snehapana*. After administration of *Vaman* and *Samsarjan Krama*, BMI came down from

28.9 kg/m² to 26.2 kg/m² as well as symptoms of *Kapha, Meda, Rasa* and *Rakta Dushti* were reduced remarkably. Positive results described on blood sugar level, HOMA-IR, BMI, lipid levels and symptoms score respectively in Table-1,2,3 and 4 are self-explanatory that *Vaman* has beneficial effect on disease, manifested because of involvement of *Kapha Dosha* and *Meda Dushti*. Two causes are contemplated to manifest *Madhumeh*, a type of *Vataj Prameha*. Charak has expounded that *Madhumeh* because of *Dhatu Kshaya* has no treatment (13). *Sthul Madhumeh* is because mainly due to *Bahudravashleshma* can be some sort of target tissue defect and *Bahu-abaddhameda* can be correlated with free fatty acids, which are released from intra-abdominal central adipose tissues. Free fatty acids may cause insulin resistance (14). As far as *Vaman* is concerned it lessens primarily *Kapha* and to some extent *Pitta* also (15). Here *Vaman* seems to decrease the peripheral insulin resistance in muscles by alleviating *Bahudravashleshma* and so helping to increase the glucose uptake. As *Vaman* also reduces the *Meda*, it must be promoting the function of insulin by reducing the circulating free fatty acids in the body (16). By this it can be justified its role in reducing both FBS and PPBS considerably. Though, results in this

case is based on only one case, the treatment can be planned based on *Dosha Pratyanka Chikitsa*. So that one can conclude that *Vaman* is the best treatment for vitiated *Kapha* and *Dushta Meda*.

Conclusion

In this case study, there is reduction in objective parameters specially in the insulin resistance in type 2 diabetes mellitus. The Ayurvedic Concepts in Diabetes, having fruitful effect; be planned and evaluated systematically, adopting meticulous methods.

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