



EFFECT OF VIRECHANA KARMA ON INSULIN RESISTANCE W.S.R TO SANTARPANJANYA VIKAR: A CASE REPORT

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ABSTRACT

Insulin resistance is an impairment of the ability of insulin to regulate glucose and lipid metabolism. The world health organization has estimated that in 1995, 19.4 million individual were affected by diabetes in India and these number are expected increases of 57.2 million by year 2025 that is one sixth of world total diabetics and insulin resistance is the most powerful predictor of future development of type 2 diabetes. In modern science diet and exercise may improve the insulin resistance. Inflammation, obesity and diabetes are strongly associated with the insulin resistance which can be correlated with Shotha, Sthoulya and Prameha respectively in Ayurveda. Prameha, Shotha and Sthoulya are mentioned as Santarpanjanya Vikar described by Acharya Charak so we consider insulin resistance as Santarpanjanya Vikar. Virechana karma is advised in the management of the Santarpanjanya Vikar hence we treated the insulin resistance by Virechana karma in this case and a significant result was found.

KEYWORDS : Insulin Resistance, Santarpanjanya Vicar, Virechana Karma

INTRODUCTION:

Worldwide 200million people suffer from insulin resistance and 40% of these patients will develop type 2 diabetes mellitus.¹Insulin resistance is impairment in the ability of insulin to appropriately regulate glucose and lipid metabolism.²The etiology of insulin resistance is still not completely understood but it is clear that insulin resistance is most commonly associated with obesity.³In obese individuals, adipose tissue released increased amount of non-esterification fatty acids, pro-inflammatory cytokines and other factors that are involved in the development of insulin resistance.⁴

Homeostasis model assessment (HOMA-IR), fasting glucose/insulin ratio (FGIR) and quantitative insulin sensitivity check index (QUICKI) methods have been widely promoted for adults studies to measure insulin resistance.⁵

Insulin resistance does not usually present symptoms, Insulin resistance appears to be a common features and contributing factors to several frequent health problems including type 2 diabetes mellitus, polycystic ovary disease, dyslipidemia , hypertension, cardiovascular disease, sleep apnea, cancers and obesity modifiable factors thought to contribute to insulin resistance include diet, exercise, smoking, stress, lifestyle intervention to address these factors appears to be critical component of any therapeutic approach. Nutritional and botanical substances may use in the management of insulin resistance.⁶

As mentioned above, obesity, inflammation and diabetes are strongly associated with insulin resistance. In Ayurveda *Sthoulya* (obesity), *Shotha*(inflammation) and *Prameha*(diabetes) are comes under *santarpanjanya vicar* mentioned by acharya charak, so we consider insulin resistance as *santarpanjanya vikar*.⁷ *virechana karma* advised to manage the *santarpanjanya vikar* as per *chikitsa sutra* of *santarpanjanya vikar*.⁸ while considering all these facts we planned to manage the insulin resistance by *Virechan karma* in obese patient.

In this case report we use *virechana karma* by *Danti leha* for insulin resistance in obese patient and got effective results in reducing HOMA IR which is the main diagnostic criteria of the insulin resistance and serum insulin reduced by *Virechana karma* .symptomatic relief also found.

CASE REPORT:

A 56 year old patient attended to our OPD with mild symptoms like *Kshudhatimatra*, *Pipasadhikya* and *Daurbalya*.

HISTORY AND EXAMINATION OF THE PATIENT:

Patient had family history of diabetes .By occupation he is teacher. Personal history reveals that he had *Amlapitta* occasionally. No history of hypertension and diabetes was found. On examination BMI of patient was 25, according to BMI patient was obese.

GENERAL EXAMINATION:

Pulse: 80/min

Bp_130/80mmofhg

RS: air entry bilateral equal, no added sound

CVS: normal, s1, s2 normal

CNS: normal, well oriented

ASHTAVIDHA PARIKSHANA

Nadi-Kapha vata pradhan

Mala-Samyak

Mutra-Samyak

Jivya-Ishat sama

Shabda-Prakri

Sparsha-Snigdha

Drik-Prakrit

Akruti-Sthool

STROTAS PARIKSHAN:

Rasavaha, *Raktavaha* and *Medovaha strotas vikriti* was found While examine the patient we advised the patient for investigation , fasting blood glucose, fasting serum insulin .fasting blood glucose was 98mg/dl and fasting serum insulin was 14.2uu/ml then HOMA IR calculated by formula.⁹

$$\text{HOMA IR} = \frac{\text{Fasting Blood Glucose (mg/dl)} \times \text{Fasting Serum Insulin (uU/ml)}}{405}$$

HOMA IR became 3.43 which is more than 2, so patient diagnosed as insulin resistance.

Again patient was examined for *Virechan yogya*(eligible for virechana karma).patient was eligible for *Virechana karma* then told him about whole *Virechana karma* and his consent was taken.

DRUGS:

Drug for *Rukshan-Triphala* (*Haritaki*(*Terminalia chebula*), *Bibhitak*(*Terminalia bellirica*), *Amalki*(*Embillica officinalis*)), *Shunthi*(*Zingiber officinalis*), *Musta*(*Cyperus rotundus*)

Drug for *Snehapana-Goghrita*(cow ghee) Drug for *Virechanakarma* (*therapeutic purgation*)-*danti leha* (*danti*(*baliospermum montanum*)/*haritaki*(*terminalia chebula*)

PREPARATION OF DANTILEHA-

Danti leha mentioned in *Charak kalpa sthana*, it contain *Danti* ,*Haritaki* and *Rab*(sugarcane molasses).¹⁰

First prepare the *kwath* (Decoction) of *Haritaki* by standard method mentioned in *Sharandhar Samhita*.¹¹

Then add *Danti kalka* add into *Haritaki kwatha*. finally add *Rab* (sugarcane molasses) accordingly to prepare leha as per standard method of *Avleha kalpana*.¹²

After *Siddhi lakshana* of leha ,10 gm *Danti leha* used for *Virechana karma* .

MANAGEMENT OF PATIENT:

Patient treated by *Virechana karma* with *Danti leha* *Virechana karma* includes *Purva karma* ,*Pradhan karma* and *Pacchat karma*

PURVAKARMA :

Purva karma include Rukshana karma ,Snehapana and Sarvang Snehana Swedan

RUKHAN KARMA :

For Amapachana

During the first 4 days we had given Triphala Churna, Shunthi Churna and Musta Churna, each 2 gm before meal with lukewarm water for Amapachana.

SNEHAPAN:

After Rukshan karma we had given goghrita 30 ml for Snehapana empty stomach at early morning. Goghrita matra(dose) increased according to Agni and Snehapachan lakshana (symptoms).when Samyak Snignndha lakshan occurs, Snehapana stopped.

Sarvang Snehana (whole body massage)and **Swedan**(steam fomentation)was advised for 2 days

PRADHAN KARMA:

After purva karma, we had given Danti leha 10 gm empty stomach in the morning for Virechana karma. Patient watch for Virechana vega and samyak virechana lakshana. At the end of day patient had 10 vega (bouts) of Virechana Karma.and Samyak Virechana lakshana occurred.

PACCHAT KARMA:

Samsarjan karma was advised for 5 days
After Virechana karma assessment was done
Assessment criteria:

SUBJECTIVE PARAMETER¹³

1. DAURBAL	grade
Absent-	0
Weakness after doing heavy physical exercise-	1
Routine activity disturbed but not ambulatory-	2
Ambulatory	3
2. KSHUDHATIMATRA	
Usual routine	0
Slightly increased (1 meal extra)	1
Moderately increased (2 meal extra)	2
3. PIPASAADHIKYA	
Feeling of thirst, 7-9times/24hr and relived by drinking water-	0
Feeling of moderate thirst >9-11times/24 hr relived by drinking water-	1
Feeling of excess thirst >11-13times/24 hr not relived by drinking water-	2
Feeling of severe thirst >13times/24 hr not relived by drinking water-	3

OBJECTIVE PARAMETER

Assessment of efficacy of virechan karma on insulin resistance will be on HOMAIR

Table:1 (Objective parameter)

Sr. No.	Investigation	Before treatment	After treatment
1.	SERUM INSULINE HOMA IR (homeostatic model assessment of insulin resistance)		
2.	FASTING SERUM INSULIN		
3	FASTING BLOOD GLUCOSE		

OBSERVATION AND RESULTS:

SUBJECTIVE PARAMETER:

Table:2 (subjective parameter results)

Sr no	Symptom	Symptom score	
		BT	AT
1	Daurbalya	2	0
2	Kshudhatimatra	2	0
3	Pipasadhikya	1	0

OBJECTIVE PARAMETER:

Table:3(objective parameter results)

Sr. No.	Investigation	Before treatment	After treatment
1.	HOMA IR (homeostatic model assessment of insulin resistance)	3.43	1.12
2.	FASTING SERUM INSULIN	14.2	5.1
3	FASTING BLOOD GLUCOSE	98	89

Discussion:

In this case report we assessed the patient by subjective and objective parameter. In subjective parameter symptom score before and after treatment was observed.

Kshudhatimatra (excess hunger) symptom score before Virechana karma was 2 and after virechana karma it was 0.

Pippasadhikya symptom score before Virechana Karma was 1 and after Virechana karma it was 0.

Daurbalya symptom score before Virechana Karma was 2 and after virechana karma it was 0.

Objective parameter assessed before and after Virechana karma.

Fasting serum insulin before Virechana karma was 14.2 and after it was 5.1uu/ml

Fasting blood glucose before Virechana karma was 98mg/dl and after Virechana it was 89mg/dl.

HOMA IR (homeostasis mode assessment of insulin resistance)which is the main diagnostic criteria of insulin resistance. Before Virechana karma HOMA IR was 3.43 and after it was 1.12.

After 1 month follow up fasting insulin was 6.8uu/ml and fasting glucose was 98 and homa ir became 1.64 which is not more than 2. It means effect of virechana karma after 1 month remains similar. Considering these result we can say Virechana karma may effective in insulin resistance.

PROBABLE MODE OF ACTION OF VIRECHANA KARMA BY DANTILEHA:

Virechana karma is elimination of Dosha through Guda marga. Drug used for Virchana karma have predominance of Prithavi and Jala Mahabhuta .

In this case Virechana karma was administrated in insulin resistance with special reference to Santarpanjanya Vikar specially in Medoroga,it have predominance of Kapha Dosha and Meda dhātu dushti. So we needed Ushna Tikсна Dravya for Virechana karma .

Danti is one of the best Virechana dravya(purgative) mentioned in Ayurveda .Danti have Teekshna ,Ushna and Guru Property , also described as Ashukari(faster in action)and Vikasi(relieves obstruction). Acharya charak mentioned Danti leha in kalpa sthana which include haritaki(Terminalia chebula).Haritaki having Madhur, Amla, Katu,Tikta Kashay Rasa and Ushana Veerya Dravya. It is the best Anulomana dravya and Acharya mentioned it as Sarva rog prashamani specially Shotha (inflammation)Prameha(diabetes) .It also useful to remove strotorodh(obstruction) and Amadosha.

In this case Danti leha helps to elimination of Dosha through Gudamarga by its properties as mentioned above. Due to elimination of Dosha Shotha(inflammation) and strotorodh(obstruction) reduces ,it also improve Agni and homeostasis of Dosha takes place. It also improves insulin sensitivity and reduces insulin resistance.

CONCLUSION:

In this case report Virechana karma was found effective in insulin resistance with special reference to Santarpanjanya vikar specially in Medorog by elimination of Dosha. Due to this Shotha (inflammation) and Strotorodha (obstruction) reduces and homeostasis of dosha takes place.

After 1 month follow up results found same i.e HOMA IR became

below 2. These results found in single case, more data should be required to confirm the result.

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