



STUDY OF IMPACT OF SITOPALADI CHURNA OVER BLOOD GLUCOSE LEVEL OF DIABETIC PATIENT- A SINGLE CASE REPORT

Ayurveda

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ABSTRACT

Diabetes currently affects more than 62 million Indians, which is more than 7.2% of the adult population. The average age on onset is 42.5 years. According to life style of today's era these age group is also simultaneously affected by bony problems, which will leads sedentary life and ultimately increase rate of diabetes due to lack of exercise. This cycle continues in most of population of these age groups. There are so many dietary restrictions for diabetic patient, especially sugar contained foods. These restrictions are not only limited for dietary food but also applied for medicines. Because increased blood sugar level affects normal cellular functions as well as hampers normal nutrition to body cells. According to *Acharya Charak*, *Sitopaladi Churna* is indicated for respiratory problems i.e., coughing, breathlessness, patient with excessive *Kapha* etc in that context no contraindications mentioned specifically for the Diabetic patients. But as per modern concepts *Sitopaladi Churna* can't be used in Diabetic patients having such respiratory problems due to presence of '*Sita (Mishri-Sugar crystal)*' in this polyherbal formulation. Polyherbal therapy is an invention of Ayurveda which was introduced by '*Acharya Sharangdhara*' for very efficient effect along with no complications. Such combinations were made in such a way that one herbal drug will support to other herbal drug by aggravating its effect of reducing its side effects. Same phenomena are found in "*Sitopaladi Churna*", Although having Sugar crystals in formulation, will not elevate the blood glucose level by compensatory effect of other herbal drugs in formulations. In this case report, effort has been made to evaluate the effect of *Sitopaladi Churna* over the blood sugar level which is the highly indicative assessment criteria for diabetes along with co-assessment of other symptomatology. This case report includes 64-year male patient who was treated with *Sitopaladi Churna* for complaint of coughing since last 15 days, and assessment of all over effect of *Ayurvedic* management.

KEYWORDS

Sitopaladi Churna, Diabetes, Respiratory symptoms, Blood Glucose

INTRODUCTION:

Polyherbal formulations are those that contain two or more herbs. The concept of polyherbalism is unique to Ayurveda, however it is difficult to express in terms of current standards. Polyherbalism was coined by the Ayurvedic literature '*Sharangdhara Samhita*' to achieve better medicinal efficacy. Individual plant active phytochemical components are insufficient to achieve the desired therapeutic effects. When polyherbal and herbo-mineral compositions combine numerous herbs in a precise ratio, the medicinal effect is boosted while toxicity is reduced. Individual plant active components are insufficient to create appealing pharmacological activity. There is evidence that crude plant extracts have higher efficacy than separated ingredients. Rather than isolated chemicals, whole plants or plant mixes are employed in traditional medicine.

Polyherbalism gives several benefits that are not available in single herbal formulations due to synergism. Polyherbal formulations demonstrate high efficacy in a variety of diseases at a safe high dose. This indicates interactions of components of polyherbal formulations. Same concepts are traced in Ayurveda literature that *Paka Pakriya* (Formulation technique) and *Sanyog* (Combination) had impact on *Ahar Dravyas* (Food products) and *Aushad Dravas* (Medicinal drugs). For example, Although *Ikshuvikara (Mishri, Guda)* etc are said to be causative factors of *Prameha* (Diabetes), *Guda* (Jaggery) is advised for treatment to be taken with *Saktu* (Food preparation).

As, *Sitopaladi Churna* contains "*Mishri*" which is contraindicated in diabetes and other herbal drugs i.e., *Vanshlochana (Bambusa arundinacea)*, *Elaichi (Elettaria cardamomum)*, *Dalchini (Cinnamomum Zeylanicum)*, *Pippali (Piper longum)*. So, this study had studied that whether *Sitopaladi Churna* had elevated blood sugar level by effect of *Mishri* or found useful to manage blood sugar level by combined effect of all the content of *Churna*.

In this study, 64-year male patient having diabetes since last 5 year and taking regular anti-diabetic medication; actually, patient presented with complaint of Bilateral knee joint pain with tingling sensation in forearm since 1 year and admitted in the hospital for the same. But During hospitalization, he got respiratory infection and had coughing for 15 days. For the treatment of coughing, he was advised "*Sitopaladi Churna*" with "*Madhu*" along with other treatment which were earlier

advised for the above said complaint. As the patient was diabetic, restricted to giving sugar contained preparation for cough management. But an experiment was done with the informed and written consent of patient for *Sitopaladi Churna* for cough management in diabetic patient.

In this case study, special attention was given to blood sugar level after the use of *Sitopaladi Churna*. This paper studies the effect of a Polyherbal formulation "*Sitopaladi Churna*" on glycemetic index (Blood sugar) in diagnosed case of Diabetes patient.

Case Report:

64-year-old retired male patient came from M.P. for the management of bilateral knee joint pain, tingling sensation from elbow joint to palm of left hand, since 1 year. During hospitalization he got respiratory infection and complaining of coughing for 15 days. Patient having history of diabetes mellitus with regular medications.

Chief Complaint:

- Bilateral knee joint pain since 1.5 year
- Tingling sensation from elbow joint to palm of left hand since 1 year
- Constipation
- Coughing since 15 days

Past History: Diabetes mellitus since last 5 years

Medicine History: Patient was taking below mentioned medicine from last 3 year.

1. Tab. Gluformin G1 forte 1 tab OD before food

Personal History: Patient was vegetarian by diet and having addiction of Gutkha (2 Packet/Day).

General Examination: All vitals were within normal limits, normal gait and decubitus, lymph nodes not palpable, patient was afebrile.

Systemic Examination:

1. Locomotory examination:

Tenderness in B/L knee joint, crepitus present in bilateral knee joint, no swelling and redness, range of movement normal but painful.

2. Respiratory examination: on auscultation bilateral rhonchi present.

3. Cardiovascular examination: S₁, S₂ heard but arithmetic, volume normal

4. Gastro-intestinal examination: soft, no tender

5. Central nervous systems: conscious and well oriented

Investigation: All hematological investigations were found within normal limits. Only ESR was found raised (22 mm/1 hour).

METHODOLOGY:

Treatment planned: Here, at very first day patient was advised to stop anti-diabetic medicine till the treatment accomplished.

1. *Yoga Basti:*

a. *Niruha basti: Panchtikta Kashay- 350 ml*

Panchtikta Ghrita-60 ml

Madhu- 50 ml

Kalka: Shatpuspa- 15 gm

Nirgundi patra- 20 gm

Saindhav- 10 gm

b. *Anuvasan basti: Panchtikta Ghrita 72 ml*

2. Cap. Palsineuron 1 tab BD after food

3. *Sitopaladi Churna* with *Madhu* 2 tsf TDS

Criteria for Assessment:

1. Blood sugar level- Daily RBS with glucometer for 10 days
2. Pain- VAS scale
3. Tingling sensation: VAS scale
4. Coughing(Mentioned in Table no.1):

Table no.1 Scoring of assessment of coughing.

Score	Day	Night
0	No Cough during the day	No cough during the night
1	Cough for one short period	Cough on waking only
2	Cough for more than two short periods	Wake once or early because of cough
3	Frequent coughing that did not interfere with usual daytime activities	Frequent waking because of cough
4	Frequent coughing that did interfere with usual daytime activities	Frequent cough most of the night
5	Distressing cough most of the day	Distressing cough most of the night

ASSESSMENT:

RBS level and coughing: assessment for Blood sugar level and coughing was done daily till complete remission of coughing.3

Table no. 2 Daily assessment of RBS level and Coughing

Day	RBS Level	Coughing	Expectorated Sputum
1	196 mg/ dl	5	Thick sputum
2	156 mg/ dl	4	Sputum with salivation
3	126 mg/ dl	3	Watery Sputum
4	125 mg/ dl	3	No Sputum
5	129 mg/ dl	3	No Sputum
6	129 mg/ dl	2	No Sputum
7	129 mg/ dl	1	No Sputum
8	125 mg/ dl	1	No Sputum
9	131 mg/ dl	1	No Sputum
10	129 mg/ dl	0	No Sputum

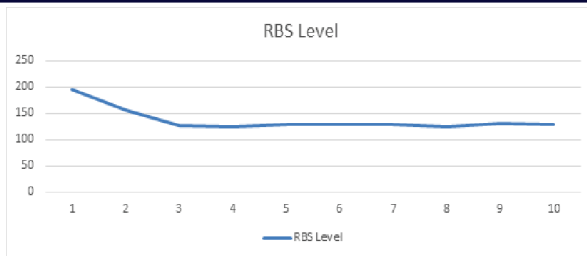
Pain and tingling sensation: Assessment for pain and tingling sensation was done on 3rd, 7th, 11th, 15th day of procedure.

Table no. 3 Assessment for pain and tingling sensation

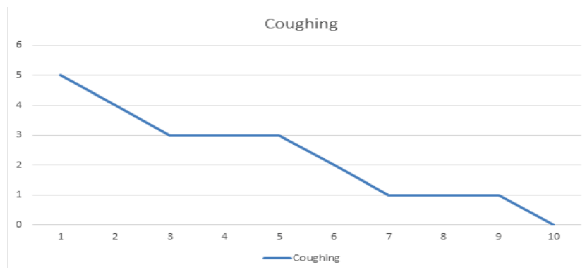
Assessment	Pain	Tingling sensation
Day 3	7	8
Day 7	6	6
Day 11	5	4
Day 15	2	2

RESULT:

Graph 1 showed throughout maintenance of RBS level although *Sitopaladi Churna* has been given daily to the patient. Which showed that *Sitopaladi churna* pursued anti-diabetic activity although having Sugar Crystal in it which is due to combination of various drug.

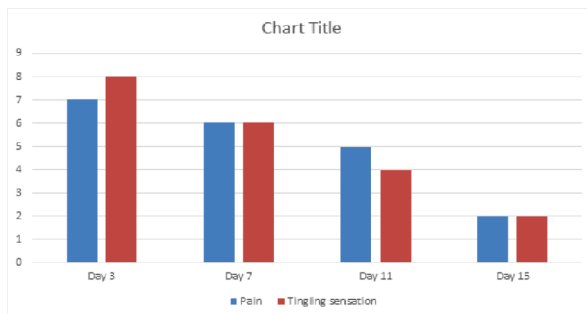


Graph .1 Daily assessment of RBS level



Graph 2: Daily assessment of coughing

Graph 2 showed throughout lowering score of Coughing due to effect of *Sitopaladi Churna* in management of coughing in diabetic patient.



Graph 3: Weekly assessment of pain and tingling

Graph 3 showed lowering of pain and tingling score by the end of treatment, which is effect of other drugs in management of other symptoms which were due to *Yoga Basti*.

DISCUSSION:

Modern sciences had declared that neuropathy will occur from long term high blood sugar level. As patient had diabetic since from last 5 year and taking regular medication for it. So, diabetes may be the cause for tingling sensation in palm, which is neuropathic arthropathy. Here a joint deteriorates because of nerve damage, said as a common complication of diabetes. There are much modern research, which are indicating that diabetic persons have increased risk of osteoarthritis.

Ayurvedic science has mentioned so many complications of *Prameha*, among them there is no direct description about neuropathy or arthropathy. But *Arochaka* (Anorexia) and *Avipaka* (Indigestion) will be observed in later stage of *Prameha* as a *Updrava* (Complications), which ultimately leads to *Dhatu Kshay* (Impaired nutrition) or *Dhatu* imbalance. Hence, symptoms related to *Dhatu Kshay* will appear at long duration of *Prameha*.

In this case study, earmark is relation of blood sugar level with oral intake of *Sitopaladi Churna* with honey. Presence of *Sita*(*Mishri*) in combination of *Sitopaladi Churna* had not affected or increased blood sugar level because of other ingredient in it i.e. *Vanshlochana* (*Bambusa arundinacea*), *Elaichi* (*Elettaria cardamomum*), *Dalchini* (*Cinnamomum Zeylanicum*), *Pippali* (*Piper longum*) had proven anti-diabetic activity in pre-clinical study. and cough was also relieved by medication by 10 days. Other *Samshodhan* procedures and management had also helped to maintain blood sugar level, although Anti-diabetic medicines were stopped by the first day of admission.

Yoga Basti acts mainly on *Vata Dosha*, so by pacifying *Vata Dosha*, *Vyadhi* related or generated by *Vata Dosha* can also be pacified. So, it

can lead to normalization of all the conducting neuronal channels which helps to pacification of tingling as well. And vitiated *Vata* is the root cause of pain which is encountered simultaneously by *Yoga Basti*. Cap. Palsineuron contains drug mostly works on imbalance of *Vata Dosh* i.e., *Mahavata Vidhwasa Rasa*, *Sameer Pannag Rasa*, *Ekingveer Rasa*, *Sootshekhar Rasa*. So, it is indicated in neuro-muscular disorders.

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CONCLUSION:

- *Ayurvedic* concepts are mainly based on concepts of *Agni*, if *Agni* is in balance status, then *prakrut avstha* will be maintained.
- *Sanskaro Hi Gunantaradhan'* is very applicable to this study, as only *Sita* can increase blood sugar level but in combination with other drugs it is not so much affecting blood sugar level.
- By treating *Pramukh Vyadhi*, *Updravas* i.e., Pain, Tingling will also be remitted by it.

Limitation Of The Study:

Study was only conducted on single patient and there was a multiple intervention, so conclusion of '*Sitopaladi churna*'s' effect on blood sugar level can't be stamped.

Declaration of patient consent:

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his clinical information to be reported in the journal. The patient understands that his name will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Additional Information

Disclosures

Declaration:

The manuscript has been read and approved by all the authors, the requirements for authorship in this document have been met, and each author believes that the manuscript represents honest work, if that information is not provided in another form.

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