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Ayurveda

CLINICAL UTILITY OF EKAMOOLIKA PRAYOGA SIDDHANTA IN MADHUMEHAJANYA PADA SHOTHA (DIABETIC NEPHROPATHY INDUCED PEDAL OEDEMA)

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ABSTRACT *Shotha* is the term explained in Ayurveda as a disease, as a *lakshana*, as a complication etc. all. In the present study, *Shotha* is considered as complication of *Madhumeha roga*. Total 30 subjects having the symptoms of *Shotha* were included in this study, under the single group. All subjects are treated with *Punarnava Kwatha* for 30 days with follow up once in week for two months. In the present study total 5 subjects showed complete relief, 17 subjects showed moderate relief and 8 subjects showed mild relief after treatment. And 8 subjects showed complete relief, 19 subjects showed moderate relief and 3 subjects showed mild relief after follow up.

KEYWORDS : Shotha, Punarnava Kwatha, Madhumeha, Lakshana

INTRODUCTION-

Madhumehajanya Shotha is coined term, in comparison with modern pathology of the diabetic nephropathy. In the disease diabetic nephropathy, the disease diabetes mellitus is main cause for damaging the nephrons of kidney, due to poor control over blood sugar.

The pathophysiology of Diabetic Nephropathy is understood by considering the 3 involved cells as a unit --- the endothelial cells, the podocytes, & the mesengial cells. These all are in physical contact with each other at various locations within the glomerulus. All the 3 cells are in abnormal condition in diabetic nephropathy. Diabetes causes a number of changes to the body's metabolism & blood circulation. Which likely to combine to produce excess reactive oxygen species [chemically reactive molecules containing oxygen]. These changes damage the kidney's glomeruli, which leads to the hallmark feature of albumin in urine. As diabetic nephropathy progresses, a glomerular filtration barrier is damaged severely. The glomerular filtration barrier is responsible for highly selective filtration blood entering in the kidneys & normally it only allows the passage of water & small molecules & very small proteins but not the albumins. Damage to the glomerular filtration barrier allows protein in the blood to leak through. Leading to proteinuria. Proteinuria on long run manifests with pitting edema, a resultant of hypoalbuminemia.

Ayurvedic classics have explained about the *Madhumeha* and *Shotha* as separate disease in different contexts. There is no direct reference of *Shotha* as a upadrava of *Madhumeha* in classics, but we get the scattered references.

Dhatupradoshaja vikaras are unique concept of Ayurveda. In *charaka samhita sutra sthana* 28th *adhaya* , all the *Dhatupradoshaja vikara* are explained by *aachrya Charaka* in detail.

From all this in the study of *Shotha* in *Madhumeha* rogi , we can consider the concept of *dhtupradoshaja viakara of rasa Dhatu , rakta Dhatu , mamsa Dhatu , meda Dhatu.*

In the *rasa Dhatu pradoshaja vikara* [1], acharya explained that *agni-nasha and srota-rodha* as a *lakshana*. In the disease *Shotha* in *Madhumeha* rogi , due to indulgence in *guru, snigdha, madhura aahara the jatharagni-mandya* is observed which further leads to *sroto-rodha* due to which *rasa-dhtwagnimandya* occurred.

In the *rakta Dhatu pradoshaja vikara*[2] , and in the *mamsa Dhatu pradoshaja vikara*[3], the *lakshana pidika and galganda a*re explained respectively.

The *Samprapti* of both the *lakshanas* are explained in *trishothiya adhyaya*[4] i.e the *prakopita Doshas* gets *sthansamshraya* in the *twacha* and *mamsa pradesha* at that region {in *gala pradesha* for *galaganda* , in *twaka pradesha for pidika*}. In the same way we can consider that the *Doshas* takes the *stahnasamshraya* at *pada pradesha* and *pada Shotha* is observed.

In the *meda Dhatu pradoshaja vikara*[5], the acharyas explained that *poorvarropa* of *prameha* are *meda Dhatu pradoshaja vikara*. According *to aachrya Gayadas*, in his *tika on prameha nidan adhyaya* ,explained that "*shririatimalibhava kroti*[6]" means the *Mala* gets increased all over the body. And in this study, it is observed that the *Kleda bhava* is increased all over the body.

*Madhumeha*ja rogi who are over indulged in *Guru, Snigdha, Madhura, Lavana and Picchila*, etc. **aahara** are prone to *Agnimandya*, as the *nidanas* are *Prithvi-Apya Guna Bhuyishtha*. Hence they will cause *Agnidushti*. This *Agnidushti* will be the cause for *Ama* production.

Due to *Jatharagnimandya, Dhathwagnimandya* occurs and by this, proper nutrients are not formed for *Dhathus*. This *Mandagni and Ama* vitiate the *Pachaka Pitta* which has the function of digestion and Annavivechana[7] and also vitiate the *Samana Vayu* situated at *Antaragni Sameepa sthana* which has the function of promotion of *Pachakagni*[8].

The *Ama* and *Agni Dushti* also vitiate *Avalambaka* and *Kledaka Kapha*. This will cause the increased production of Dravamsha in *Kapha* (which will translate into excess formation of Bahudrva *Kapha* in the conditioin of Prameha).

This *Bahudrava Kapha*, *Pitta*, etc. will cause the over production of *Kleda* in the body.

These *Kleda* and *Dushita Doshas* produce further *Shithilata* and *Dushti* of *Meda, Mamsa, Rasa, Raktadi Dhathus*. The *Kapha* and other *Dushyas* especially *Meda* causes the *Avarana* of *Vata*.

The *Gati Nirodha* of *Vata* at *Vrikka by Meda and Kapha* can happen by means of these interlinked phenomena:
1. *Vata*kara *Nidana* directly causing *Vata* Prakopa.
2. The *Gatinirodha* by excess *Meda* and other *Dushyas*.

The *Prakupita Vata* does displacement of essential factors and excretes it along with *Kitta bhaga* of anna. The Prakupita *Vata* manifests its signs earliest at its sthana i.e. Pakwashaya.

Since it is the Moola of Mootravaha *Srotas*, this *Srotas* is also dragged into the *Samprapti*. (sha.sam.purva khanda 6\7 pg no. 68) *Samana Vayu and Pachaka Pitta* by their proper functioning separate *Mala Bhavas* from *Saramsha*. *Mootra* is the *Dravarupa Mala* formed in the *Mootradharakala* situated in *Vrikka*.

The *Kleda*, Bahudrava *Kapha*, *Samana Vayu*, *Pachaka Pitta*, and the other *Dhatu*s derangements cause *Srotodourbalya* of *Moothradhara*

kala due to the *Shithila and Dushita Dushyas.*

This *Srotodourbalya* contributes to the excessive loss of *Dhathu Saramsha* along with *Kleda Bhavas* because of the loss of ability to hold them together before separating from *Mala Bhavas*.

This also causes *Atipravritti* of *Srotas*. *Atipravritti* of *Srotas* cause *Vata* Prakopa and structural damage of the organs *(kha- vaigunya)*. Some of *Meda* and *Kledamsha* gradually get accumulated within the *Srotomukhas* leading to their *sanga*.

Albuminuria is nothing but the excess loss of *Dhathu Saramsa* due to *Srotodourbalya*. The progress of this structural damage gradually leads to a condition in which function of the *Srotas* is totally impaired (*Sanga*).

As function of *Mootradharakala* becomes fully impaired, there is failure in the removal of *Kleda*msa and *Udaka Bhavas*, which leads to their accumulation in the body. As these bhavas are *aapya mahabhoota pradhana* and vitiated by *Kapha* also due to *kha vaigunya* in *Srotas*as, it travels to *adha shakha pradesha*.

Mainly these *Mala*s may take *Sthanasamshraya* in *pada-pradesha* where the *Samprapti* of *Shotha* gets started. And we get ***Pada- Shotha*** as one of the important symptom. This is what is happening in end stage nephropathy and the disease becomes *Asadhya.*

***Samprapti* Ghataka**

- *Dosha - Tridoshaja*

Vata- Vyana Vata , Samana Vata, Apana Vata (karmataha hani)
Pitta – Pachaka Pitta (karmataha hani)
Kapha – Avalambaka Kapha Kledaka Kapha (karmataha hani)

- *Dushya- Dhatu- Rasa, Rakta, Meda*

Upadhatu – Sira
Mala - Kleda and Mootra

- *Agni- Jaatharagni, Dhatwagni , Malagni.*
- *Ama- Jaatharagnijanya, Rasa , & Meda Dhatwagnijanya , Malagnijanya*
- *Udbhavasthana- Koshta*
- *Sancharasthana- Sarvashareera*
- *Adhisthana- Twak mamsashraya (Adha Shakha)*
- *Srotas- Rasavaha, Raktavaha, Medavaha, Udakavaha, Swedavaha, and Mootravaha Srotas*
- *Srotodushti prakara- Sanga, Vimargagamana*
- *Rogamarga – Bahya rogamarga*
- *Swabhava – Chirkari*

PROBABLE MODE OF DEVELOPMENT OF PEDAL OEDEMA DUE TO DIABETIC NEPHROPATHY

The two basic steps are involved in the formation of edema, first is alteration in capillary hemodynamics, and second is renal retention of sodium and water by the kidneys. The major contributor of maintaining intravascular oncotic pressure is due to impairment proteins, mainly albumin.

The normal body plasma level is about 3 liters. The diffusion of more amount of water and electrolyte is balanced by the renal retention of sodium and water to maintain the intravascular volume and hemodynamics stability. In the condition of diabetic nephropathy, the intravascular fluid volume gets decreased. This initiates the neuro-humoral cascade to maintain the stability of volume of fluid in circulation. This cascade works on body and renal vasoconstriction started leading to reduction in glomerular filtration rate, and increase in sodium and water reabsorption in collecting tubules **(mixing of *Sara bhaga* of *Dhatu*s along with *Kitta bhaga***) by angiotensin 2 and aldosterone hormones respectively. In further stage the endothelium derived prostaglandin like factors limits the sodium and water retention again which leads to its more accumulation and stagnation in dependent body parts **(sthan samshraya at kha-vaigunya place)** like ankles, legs due to gravitational force. Pedal edema is observed

AIMS AND OBJECTIVES-

- To study the Shotha in detail as per Ayurvedic classics
- To study & analyze Shotha Chikitsa siddhanta in detail as per Ayurvedic classics
- To compare & analyze the relation between Shotha in madhumehi to Diabetic Nephropathy
- To evaluate the efficacy of *Punarnava* kashaya in shotha in madhumehi (diabetic nephropathy)

MATERIALS AND METHODS-

Patients were selected and registered after fulfilling the diagnostic criteria of *Shotha.* The patients were thoroughly questioned and examined on the basis of proforma which includes both subjective and objective parameters. Ethical clearance and informed consent were obtained before starting the clinical trial.

INCLUSION CRITERIA-

- Subjects of age between 50-70 years irrespective of gender.
- Subjects of diabetes mellitus having padashotha.

EXCLUSION CRITERIA-

- Subjects with shotha on legs due to other disease than diabetes.
- Subjects with hypertension, liver diseases, cardiac diseases etc.
- Subjects with Tuberculosis , HIV etc. disease
- Pregnant & lactating women

EXAMINATION OF THE PATIENT

In this study the data was collected from the patients with the help of interview. The detailed data related to general history, history of past illness, present illness, family history, food habits, history of treatment taken so far etc. were recorded in the Proforma of the case sheet. The systemic examinations of the patient were also done and findings were recorded as per the Proforma.

PARAMETERS OF THE STUDY-

TABLE NUMBER 1: SUBJECTIVE PARAMETERS-

SUBJECTIVE PARAMETER	SYMPTOM SCORE
UTSEDHA	
No	0
Mild (bilateral difference of >1 cm just above the ankle)	1
Moderate (bilateral difference of >2 cm just above the ankle)	2
Severe (bilateral difference of >3 cm just above the ankle)	3
GAURAVTA	
No (No any Feeling of covering a foot by wet cloth)	0
Mild (Feeling of covering a foot by wet cloth occasionally in 24 hours)	1
Moderate (Feeling of covering a foot by wet cloth after an interval of 24 hours)	2
Severe (Feeling of covering a foot by wet cloth continuously for more than 24 hours)	3
ANAVASTHITATWA	
Absent	0
Present	1
SIRATANUTWA	
Absent	0
Present	1
LOMAHARSHA	
Absent	0
Present	1
VIVARNATA	
Absent	0
Present	1

Table Number 2 :objective Parameters-

OBJECTIVE PARAMETERS	SYMPTOM SCORE
• **RENAL FUNCTION TEST**	
• **SERUM CREATININE**	
NORMAL (0.5-1.5 mg/dl)	0
MILD (1.6-1.8 mg/dl)	1
MODERATE (1.9-2.1 mg/dl)	2
SEVERE (above 2.1 mg/dl)	3
• **BLOOD UREA**	
NORMAL (15-40 mg/dl)	0
MILD (41-50 mg/dl)	1
MODERATE (51-60 mg/dl)	2

SEVERE (above 61mg/dl)	3
• **PADA SHOTHA**	
No edema	GRADE 0
0-2 mm indentation Slight Pitting No Visual Distortion Disappears Rapidly	GRADE + 1
2-4 mm indentation Deep Pitting No Readably Detectable Distortion Disappears in 10-15 seconds	GRADE + 2
4-6 mm indentation Noticeably Deep Pitting May last More Than 1 Min Dependent Extremity Looks Like Swollen	GRADE + 3
6-8 mm indentation Very Deep Pitting Lasts as long as 2-5 Min Dependent Extremity is Grossly Distorted	GRADE + 4
• **USHMA**	
PRESENT	0
ABSENT	1
• **ROUTINE URINE ANALYSIS**	
• **SERUM ALBUMIN**	
NORMAL	0
MILD INCREASE (+)	1
MODERATE INCREASE (++)	2
SEVERE INCREASE (+++ **or more than** +++)	3

STUDY DESIGN-
A literary Clinical study.

SAMPLE SIZE-
A minimum of 30 subjects of Padashotha due to *Madhumeha* will be selected and will be studied under single group.

INTERVENTION-
Medicine : *Punarnava* kashaya
Dosage : 40ml twice a day.
Duration : 30days
Kaala : Prag Bhakta
Follow up : Once in a week for 2 months.

ASSESSMENT CRITERIA
The data, which are obtained by the clinical trial, will be statistically analyzed by applying students paired't' test and other relevant statistical test.

Relief of subjective and objective parameters before and after the treatment will be assessed and the result will be recorded as:

Results	**Response of the Patient**
Complete relief	- 76%- 100% relief of signs and symptoms
Moderately relief	-51%- 75% relief of signs and symptoms
Partially relief	-26%- 50% relief of signs and symptoms
No relief	-0% - 25% relief of signs and symptoms

Table Number 3: Effect Of Therapy On Individual Parameters-

SL. NO	ASSESSMENT PARAMETERS	MEAN (BT)	MEAN (AT)	MEAN (AF)	OVERALL RELIEF IN % (AT)	REMARKS	OVERALL RELIEF IN % (AF)	REMARKS
1.	***UTSEDHA***	2.2	0.533	0.8	75.75	**COMPLETE RELIEF**	63.63	**MODERATE RELIEF**
2.	***GAURAVATA***	2.33	0.433	0.70	81.42	**COMPLETE RELIEF**	70	**MODERATE RELIEF**
3.	***ANAVASTHITATWA***	0.7	0.1	0.1	85.71	**COMPLETE RELIEF**	76.19	**COMPLETE RELIEF**
4.	***SIRATANUTWA***	0.633	0.1	0.133	84.21	**COMPLETE RELIEF**	78.94	**COMPLETE RELIEF**
5.	***LOMAHARSHA***	0.5	0.066	0.033	86	**COMPLETE RELIEF**	93	**COMPLETE RELIEF**
6.	***VIVARNATA***	0.6	0.1	0.2	83.33	**COMPLETE RELIEF**	66.66	**MODERATE RELIEF**
7.	***PADASHOTHA***	2.43	0.566	0.866	76.71	**COMPLETE RELIEF**	64.38	**MODERATE RELIEF**
8.	***USHMA***	0.8	0.166	0.2	79.16	**COMPLETE RELIEF**	75	**MODERATE RELIEF**
9.	***SERUM CREATINE***	2	0.466	0.666	76.66	**COMPLETE RELIEF**	68.66	**MODERATE RELIEF**
10.	***BLOOD UREA***	1.86	0.366	0.366	80.35	**COMPLETE RELIEF**	67.85	**MODERATE RELIEF**
11.	***SERUM ALBUMIN***	1.86	0.3	0.6	83.92	**COMPLETE RELIEF**	69.64	**MODERATE RELIEF**

Graph Number 1: Overall Result On Each Parameter Of The Study

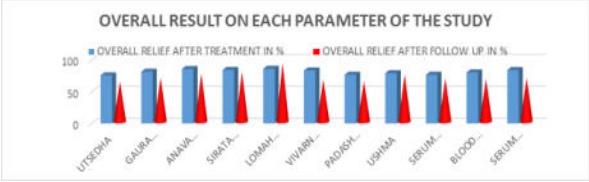
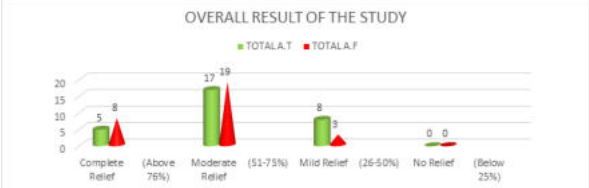


Table Number 2: Overall Result Of The Study -

% RELIEF	TOTAL AFTER TREATMENT (A.T)	TOTAL AFTER FOLLOW UP (A.F)
Complete Relief (Above 76%)	5	8
Moderate Relief (51-75%)	17	19
Mild Relief (26-50%)	08	03
No Relief (Below 25%)	00	00

GRAPH NUMBER 2: OVERALL RESULT OF THE STUDY



PROBABLE MODE OF ACTION OF *PUNARNAVA KWATHA*-
According to Ayurveda principle of management of this disease is repairing of tissue damage which is occurred by chronicity of the disease, increase in filtration rate, removing the blockages. For above *lakshanas* there is a drug explained in Ayurveda that is *PUNARNAVA*.

While prescribing any medicine, it is important to decide the time to take the medicine as well as in what form we take that medicine then only that medicine will give the proper result.

In *Pragabhakta kala, aushadhi* should be administered before meal followed by the food. It is told that this kala is mainly chosen for *Apana*

vikruti and in *bala, vriddha* and *sukumara rogi,* in this *kala* there is no any obstruction by the food to the *aushadh*i to travel towards *Adhokaya pradesha* and as the *aushadi* followed by the food there are no any chances of regurgitation of *aushadhi*.

In *sharangadhara samhita, puanranava* is mentioned as *shothaghana dravya. Kwath* of *Punarnava* is mentioned as *Shothahara & Pandu rogahara*. In Charka samhita, it is placed in *Vayastahapan mahakashaya.*

***Punarnava Kwatha* is having.**

Rasa- Madhura [JALA+PRTHVI] , Tikta [VAYU+AKASHA] , Kashaya [VAYU + PRTHVI]
Virya- Ushna
Vipaka- Madhura
Guna- Ruksha, laghu
Karma- Deepana, Virechana , Anulomana

As the *Tikta rasa* is having *Aakasha mahabhoota pradhanta [Sukshma guna]* it will reach towards the minutest *Srotas*as of the body.

Due to *Tikta rasa [VAYU+AKASHA]*, Ushna virya and the *laghu guna* the *Punarnava Kwatha* will acts as *deepana* and it cures the *jatharagnimandya* as well as *dhatwagnimandya*.

Ruksha guna, and *Usna Virya Punarnava Kwatha* helps in *Kleda shoshana* in the body.

As explained in *charaka samhita kalpasthana 1st adhyaya*, the drug having *JALA+PRTHVI mahabhoota pradhana* acts as a *virechaka*. The *Punarnava Kwatha* having the *Madhura rasa [JALA+PRTHVI]* and *Madhura vipaka* acts as a *virechaka*. So the *ati Kleda* gets removed from the body due to this *virechaka karma* and urine filtration rate gets increased.

Tissue damage occurred in diabetic nephropathy due to its chronicity will be cured by *Rasayan property* of *Punarnava*. Due to *Madhura rasa [PRTHVI+JALA] and Madhura Vipaka*, it acts as a *rasayana*.

It is explained that in the *Samprapti* of *Shotha* in *Madhumeha* rogi, the *karma of samana Vata* , *apana Vata* and *vyana Vata* gets affected. i.e mainly *karma kshaya* is observed due to *Chala guna and Ruksha guna hani of Vata. The Tikta [VAYU+AKASHA] and Kashaya [VAYU + PRTHVI] rasa* will increase *the Chala guna* as well as *Ruksha guna* of *Vata.*

The *Tikta [VAYU+AKASHA] and Kashaya [VAYU + PRTHVI] rasa* will increases the *Tikshna guna of pachaka Pitta*. Due to which proper *Sara-Kitta vibhajana* takes place.

In case of *Kapha* , the *avalambaka Kapha and Kledaka Kapha* are mainly affected i.e. due to increase in *snigdha , sheeta* and *guru guna the karma of Kapha* is increased. The *Ushna virya, Tikta rasa [VAYU+AKASHA]* and *Kashaya rasa [VAYU + PRTHVI] & Ruksha guna* will decrease the *Kapha gunas*. So the *Kleda*ta will gets reduced from the body.

DISCUSSION-

Mode Of Action Of *Punarnava Kwatha* On *Madhumehajanya Shotha*

In the present study, the *Samprapti* of *shotha* in *Madhumeha* rogi begins with *nidana sevana* which results with *nidana sevana* which results in *tridosha vishamata*. These *vriddha tridoshas* searches for proper place and they gets sthan *samsharya* at the *mutravaha Srotas*. It gives rise to *lakshanas* like *utsedha and gauravata* which is caused due to *vriddhi of guru, snighdha and sheeta guna. Guru guna (jala+prthvi) of Kledaka Kapha* was treated *by laghu guna (vayu+akasha+agni)* of *kashaya. Sheeta guna of Kledaka Kapha* and *samana Vata* is treated by *ushna virya (agni) of kashaya. Anavasthitatwa* is caused due to increased *sthira guna (prithvi)* of *Kapha* and decreased *chala guna (vayu+aakasha)* of *Vata*. It is treated by the *ruksha guna (vayu + prithvi+agni) and ushna virya of kashaya. Siratanutwa* is caused due to increased *drava guna Kledaka Kapha* and *drava guna* of *pachaka Pitta.* It is treated by the *ruksha guna (vayu +* prithvi+agni), *ushna virya, tikta rasa (vayu + akasha) of kashya. Lomaharsha* is caused due to increased *sheeta guna (jala)* of *Kleda*ka *Kapha*. It is treated by the *ushna virya (Agni)* of *kashaya. Ushma and vivarnata* are caused by the increased *drava guna (jala*) and *snigdha guna* (*jala) of pachaka Pitta*. It is treated by the *ruksha guna (vayu + prithvi+agni) , ushna virya (agni) of kashaya.*

Mode Of Action Of *Punarnava Kwatha* On Diabetic Nephropathy Induced Pedal Edema

The *punarnva Kwatha* by its *ruksha guna (vayu+prithvi+agni)* and *ushna virya (agni*) acts on the thickened glomerular basement membrane (*Kapha* prakopa) and does the *lekhana karma* over that surface which helps to proper passage of water and solutes to the further circulation. The *tikta rasa (vayu+aakasha)* of *Kwatha* being the *aakasha mahabhoot pradhana* it acts on the minute capillaries and gives strength to filter the salts and water in proper manner. The chronic injuries occurred due to reactive oxygen species to the nephron is treated by the *madhura rasa (jala+prthvi) and madhura vipaka (jala+prithvi)* of the *Kwatha (rasayana karma)*. The decreased plasma oncotic pressure due to loss of albumin (loss of *Dhatu saraamsha*) in urine is balanced by the *tikta (vayu +aakasha) and kashya rasa (vayu+prithvi)* of *Kwatha*. The increased hydrostatic pressure inside the glomerular (*bahudravata* of *Kapha* and *Kleda*) is treated by the *tikta rasa (vayu+aaksha) and ushna virya (agni)* of *Punarnava Kwatha*. The *madhura viapaka (jala+prithvi)* of the *Kwatha* will help to proper evacuation of urine by increasing the glomerular filtration rate. Due to all this when the glomerular filtration rate becomes normal and the proper filtration of water and salts occurred at the proper site then the osmotic pressure inside the kidney remains normal and the edema is reduced.

In present study we have selected the *Eka Mulika Prayoga* because Ayurveda needs extensive re-orientation to gain scientific reliability, as the traditional old system of medicine, if given the landscape, is hovering for an unexpected extension worldwide. Hence there is a need to transform Ayurveda into dynamic, scientifically validated and evidence based which takes its ancestry from rich knowledge base of oral tradition and scriptures. On the other hand gradual increase demand of herbal medicine in global market along with scarcity of medicinal plant is becoming future challenge of plant based traditional systems of medicine like Ayurveda. In these prospects here is the need for supplementary simple and cost effective medicament based on single drug. Numerous such kind of single drug therapies are mentioned in Ayurveda classical texts and also traditionally practiced by many Ayurveda physicians successfully in various disease. In the present study, among the panchavidha kashaya kalpna, kwatha is only selected because, In diabetic patients we can't administer Asava and Arishta preparations in large doses for longer period of time because Asavas are prepared without agni so it is guru for pachana and Arishtas are prepared with guda which is one of the important nidana for Madhumeha.

CONCLUSION-

In the present study, with the help of *Punarnava Kwatha*, *Shotha* in *Madhumeha* rogi is treated. According to *Chikitsa siddhanta* of *Shotha Roga*, by understanding the *rogi bala, roga bala & kala, the dosha viparita chikitsa* is done. Subjects of age group 50 to 60 years of age, males, having sedentary lifestyle, upper middle class group peoples were more prone to *shotha* in *Madhumeha* rogi. In this age group the some subjects are still working. Their lifestyle is somewhat stressful, due to work pressure and this age group is mainly tried to relate their lifestyle with next generation so more stress is developed on them. Some are in there retired life. Their lifestyle is sedentary. So due to all these reason this age group is more prone to this disease. The males are having more sedentary life as compared to females because females are still indulged in the household works. So due to sedentary life style may be the male are prone to this disease. It is observed that in upper middle class families the lifestyle is more relaxed and sedentary. So this class is more prone to this disease. In the present study total 5 subjects showed complete relief, 17 subjects showed moderate relief and 8 subjects showed mild relief after treatment. And 8 subjects showed complete relief, 19 subjects showed moderate relief and 3 subjects showed mild relief after follow up. The efficacy of the drug showed statistically highly significant ($p<0.001$) result in all parameters of assessment. According to treatment protocol of this study, the Punarnava kwath was administered to the patient for 30 days. During this schedule the vyadhi-viparita and hetu viparita aahar and vihara according to classics was told to subjects to observe strictly. So that the result of the therapy on each parameter was ranging from 75% to 85%. But after completion of treatment schedule, in the follow up-period, patient was told to follow only the vyadhi-viparita and hetu viparita aahar and vihara regimen, and no any medication was given. During this period subjects might not followed the proper given regimen, the result of the therapy on each parameter was decreased 60% to 75%.

REFERENCES-

1. Vd Yadavji Trikamaji Acharya, Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary by Chakrapani, Sutra sthana, 28th chapter, Verse- 9,10, Chaukhamba

Publication New Delhi.Reprint 2018, Page number.-179.
2. Vd Yadavji Trikamaji Acharya, Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary by Chakrapani, Sutra sthana, 28th chapter, Verse- 11,12, Chaukhamba Publication New Delhi.Reprint 2018, Page number.-179.
3. Vd Yadavji Trikamaji Acharya, Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary by Chakrapani, Sutra sthana, 28th chapter, Verse- 13,14, Chaukhamba Publication New Delhi.Reprint 2018, Page number.-179.
4. Vd Yadavji Trikamaji Acharya, Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary by Chakrapani, Sutra sthana, 18th chapter, Verse- 21,24, Chaukhamba Publication New Delhi.Reprint 2018, Page number.-107.
5. Vd Yadavji Trikamaji Acharya, Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary by Chakrapani, Sutra sthana, 28th chapter, Verse- 15, Chaukhamba Publication New Delhi.Reprint 2018, Page number.-179.
6. Sushrut, Sushruta Samhita, with Nibandhasangraha of Dalhanachrya & Nyachandrika Panjika of Gayadasachrya edited by Vaidya Yadavji Trikamji Acharya. Nidana sthan , 6th chapter, Verse-5, Chaukhamba Surbharati Prakashan Varanasi, Page Number – 486
7. Vriddha Vagbhat , Ashtang Sangraha , Indu virchita Shashilekha Commentry, Kaviraj Jyotir Mitra Acharya , edited by Dr. Shivprasad Sharma , published by Chaukhambha Sanskrit Sansthan, Varanasi, Sutra sthan 20th chapter, Verse-7, Page number- 157
8. Vriddha Vagbhat , Ashtang Sangraha , Indu virchita Shashilekha Commentry, Kaviraj Jyotir Mitra Acharya , edited by Dr. Shivprasad Sharma , published by Chaukhambha Sanskrit Sansthan, Varanasi, Sutra sthan 20th chapter, Verse-7, Page number- 157