

International Research Journal of Ayurveda & Yoga

An International Peer Reviewed Journal for Ayurveda & Yoga



A Clinical Study To Evaluate The Effect of *Yashtavyah Niruha Vasti* and *Bodhi Vriksha Kashaya* In The Management of *Vatarakta* w.s.r. To Gout.

Dr. Diksha¹ Dr. Anil Bhardwaj² Prof. Pushpender Singh³

ICV-70.44- ISRA-1.318
VOLUME 4 ISSUE 4

1. PG Scholar Rajiv Gandhi Govt. Post Graduate Ayurvedic College Paprola. Kangra (H.P.)
2. Reader, Deptt. Of Panchkarma , Rajiv Gandhi Govt. Post Graduate Ayurvedic College Paprola .Kangra.(H.P.)
3. Professor & H.O.D. Deptt. Of Panchkarma , Rajiv Gandhi Govt. Post Graduate Ayurvedic College Paprola .Kangra.(H.P.)

Corresponding Author :- Dr. Diksha, PG Scholar Rajiv Gandhi Govt. Post Graduate Ayurvedic College Paprola. Kangra (H.P.),
Email, id-dikshavashisht8@gmail.com

Article received on 18th March 2021

Article Accepted 26th April 2021

Article published 30 April 2021

ABSTRACT: -

Introduction : *Vatarakta* is disease which is caused by vitiation of *Vata* and *Rakta* (blood). This disease usually caused by faulty life style¹. It can be compared with Gouty arthritis due to maximum resembles in the sign and symptoms. In this era *Vatarakta* (Gout) is very eminent disease with lesser effective treatment. Along with life style modifications effective therapy is the need of the day. Present research work was humble attempt to see the effect of *Panchkarma* and *Shaman aushadh* (Pacification therapy) in this disease.

Methods : In this study 10 patients of *Vatarakta* (Gout) were selected from OPD of *Panchkarma* department, RGGPG Ayurvedic college and Hospital Paprola. All patients were treated with *Yashtavyah Niruha Vasti* along with *Bodhi vriksha kashaya panam*.

Result: The *Vasti* and *Bodhi Vriksha Kashaya* were significantly effective in all the symptoms of *Vatarkta*.

Discussion: *Vata* and *Rakta* are the main *Dosha* and *Dushya* in disease. *Vasti* (enema) being most effective in *Vata Dosha* and *Yahtvyah* which is main content of *Vasti* causes *Rakta Shaman*. *Boshivriksha Kashya* is effective in *Tridosha Prakopa*. Thus, this protocol was found significantly effective.

Key words : *vatarakta* , *Panchkarma* , *Kashaya*.



This work is licensed under a creative attribution -Non-commercial-No derivatives 4.0 International License commons

How to cite this article: Dr. Diksha, Dr. Anil Bhardwaj, Prof. Pushpender Singh, A Clinical Study To Evaluate The Effect Of *Yashtavyah Niruha Vasti And Bodhi Vriksha Kashaya* In The Management Of Vatarakta W.S.R. To Gout” IRJAY, April: 2021, Vol-4, Issue-4;10-18 ;

Doi: <https://doi.org/10.47223/IRJAY.2021.4417>

INTRODUCTION

Vatarakta (Gout) is one of the conditions which is resulted by vitiation of *Vata Dosha* and *Rakta Dhatu* (blood).² It can be correlated with Gout based on symptomatology and etiology in modern medical science. *Vatarakta* (Gout) is mentioned as *Vata Pradhan Tridoshaj Vyadhi in Ayurvedic* text by various *Acharyas*. It is described as one of the manifestations of vitiated *Vata* and *Rakta* (blood) simultaneously. It is the major example of *Vataj vyadhi* caused by *Avaranjanya Pathology*³. In this disease vitiation of *Vata Dosha* and *Rakta Dhatu* (blood) produces complex symptoms like *Sandhi shola* (Joint pain), *Sandhishotha* (Joint inflammation), *Raga* (redness), *Kandu* (itching) and *Sparsh agyatva*⁴ etc. Detailed description of etiology, pathogenesis and symptoms have been given in *Ayurvedic* texts. Treatment modalities mentioned in *Ayurveda* can be divided into two parts *Antahparimrjana chikitsa* (internal cleansing) and *Bahiparimarjana chikitsa*. In *Antah parimarjana chikitsa* (internal cleansing) *Virechana* (purgation), *Vasti* (enema) and *Rakta mokshana* (Bloodletting)⁵ are the main *Panchkarma* procedures and *Lepa*(pack), *Parisheka* (stream pouring), *Pradeha* (local sudation)⁶ among *Bahya parimarjana chikitsa* (external cleansing).

Among all of these, *Vasti* (medicated enema) is given prime importance for treatment of *Vatarakta* (gout). Specially *Vasti* (medicated enema) containing *ksheera* (milk) are considered very effective as compared to others.

Yashtavyah niruha vasti is effective in *Vatarkta* (gout) as *Vasti* (medicated enema) pacify *Vata* and *Yashtavyaha* is *Rakta shamaka*. *Bodhi Vriksha*

kashaya is *Tridoshaj vatarakta shamaka*, explained by *Acharya charka*.

AIMS & OBJECTIVES

- ❖ To explore *Ayurvedic* and modern review pertaining to *Vatarakta* and Gout respectively.
- ❖ To assess the efficacy of *Yashtavyah niruha vasti* and *Bodhi vriksha kwatha* in the management of *Vatarakta* w.s.r. to Gout.
- ❖ To develop effective *Panchkarma* therapy for the management of *Vatarakta* (gout).

MATERIAL & METHOD

1. **Ethical Clearance:** Ethical clearance was obtained from Institutional Ethical Committee before commencement of clinical trial vide approval letter no. Ayu./IEC/2017/1159.
2. **Screening:** The OPD and IPD patients of *Vatarakta* were screened and 10 patients fulfilling the diagnostic and inclusion criteria were enrolled for study.

INCLUSION

- ❖ Patients willing to participate in study.
- ❖ Patients between age group of 20-60 years of either sex and religion
- ❖ Only uncomplicated cases of *Vatarakta* or Gout were taken in the study.

EXCLUSION

- ❖ Patients unwilling to participate in study.
- ❖ Patients presenting with systemic complications like Ischemic Heart Disease, Uncontrolled Hypertension, Chronic Kidney Disease,

Uncontrolled Diabetes Mellitus etc.(Any Ayurvedic contraindication)

- ❖ Pregnancy.
- ❖ Mentally unstable and substance abused patients
- ❖ Any other patient considered unfit for study.

CRITERIA FOR DIAGNOSIS

The patients were diagnosed on the basis of *Ayurvedic* and modern symptomatology mentioned in different *Ayurvedic* and modern text books.

a. Following signs and symptoms were considered for the diagnosis as mentioned in classical texts :-

- i. *Sandhi Shoola* (Joint pain)
- ii. *Sandhi Shotha* (Swelling of joint)
- iii. *Sparsh Asahyata* (Tenderness)
- iv. *Raaga* (Redness)
- v. *Twaka Vaivarnya* (Discoloration of skin)
- vi. *Vidaha* (Burning sensation)
- vii. *Sparsha agyatva* (Numbness)
- viii. *Kandu* (Itching)
- ix. *Sandhivikriti* (Deformity of joint)

b. Serum uric acid was considered as investigation based diagnostic tool. Serum uric acid >7mg/dl in males and >6mg/dl in females was considered for diagnosis.

MANAGEMENT PLAN

Number of patients

Patients fulfilling the diagnostic criteria were selected randomly from OPD/IPD of Panchkarma department of RGGPG Ayurvedic college and Hospital, Paprola, Distt. Kangra (H.P.)

Grouping of patients

A single group of 10 patients were selected for present study. *Yashtavyah niruha Vasti* was administered in *kala Vasti regimen* and *Bodhivriksha Kashaya* orally.

- ❖ **Duration of study** - 16 days
- ❖ **Follow up** - After 16 days.

Plan of Study

- ❖ *Sthanik abhyanaga* with *Guduchi tail* for 16 days.
- ❖ *Dashmoola nadi swedana* for 16 days.

- ❖ *Anuvāsana vasti with Guduchi tail* in dose of 60 ml for 10 days in to *Kala Vasti* regimen.

- ❖ *Yashtavyah niruha vasti* in dose of 600 ml for 6 days in *Kala Vasti* regimen.

- ❖ *Bodhi vriksha kashaya pan* 80 ml with honey for 16 days once daily.

Methods Of Preparation Of *Yashtavyah Niruha Vasti* :-

Yashtavyah niruha vasti was prepared as per the classical method. For the preparation of *Niruha vasti* as initially 2 *pala* (80 ml) of honey along with *saindhava lavana* one *karsha* (10 gm) triturated until it became homogenous. Two *pala* (80 ml) *Guduchi tail* was added and triturated . Further *vasti kalaka dravya* (*Pippali, Shatahva ,Madanphala*) 40gm added and mixed thoroughly .After this *Yashtavyah kwatha* in quantity 450 ml mixed slowly to form uniform *Vasti Dravya*. Thereafter *Vasti dravya* was filtered and collected in *Vasti Putaka* .

Method of preparation of *Kwatha* (Decoction) :

Preparation of *Kwatha* was done according to *Sharangdhara samhita*. 40 grams of *Yavakuta Bodhi Vriksha Kashaya* taken and 8 times water added to it. It was boiled in low flame until reduced up to 80 ml. It was mixed with 5 ml of honey. Patients were advised to take it once in a day in the morning.

CRITERIA OF ASSESSMENT

- ❖ Subjective parameters were assessed before and after the treatment as per grade score.
- ❖ Serum Uric acid was estimated at the time of inclusion and at follow up after completion of the study.

1. SUBJECTIVE CRITERIA:

a. Signs and Symptoms

The following signs and symptoms were assessed on the basis of severity and grading was done.

Pain of the patients was assessed on the basis of Visual Analogue Scale (VAS).

- i. *Sandhi Shoola* (Joint pain)
- ii. *Sandhi Shotha*(Swelling of joint)
- iii. *Sparsh Ashayata* (Tenderness)
- iv. *Raaga* (Redness)

2.Objective Criteria:

- ❖ Serum uric acid was estimated before and after treatment.
- ❖ VAS scale

EFFECT OF THERAPY

1. Subjective Parameters

A. Signs and Symptoms

Table No. 2 - Effect of therapy on signs and symptoms

Signs and Symptoms	N	Mean Score		Mean Difference	%age relief	SD±	SE±	t	P
		BT	AT						
<i>Sandhi Shoola</i> (Joint pain)	10	2.7	0.30	2.4	88 %	0.181	0.05	15.98	<0.001
<i>Sandhi Shotha</i> (Joint swelling)	10	2.1	0.100	2.0	95%	0.158	0.050	19.00	<0.001
<i>Sparsh asahtva</i>	10	2.1	0.20	1.90	90%	0.21	0.06	13.50	<0.001
<i>Raga</i> (redness)	10	2.1	0.10	2.00	95%	0.158	0.05	19.00	<0.001
<i>Vidaah</i> (Burning sensation)	8	1.9	0.100	1.8	94%	0.199	0.07	12.71	<0.001
<i>Granthi</i>	1	0.20	0.20	0.00	-	0.00	0.00	-	>0.05
<i>Sparsh agayata</i> (numbness)	5	0.70	0.10	0.60	85%	0.237	0.106	12.14	<0.001
<i>Kandu</i> (itching)	5	0.70	0.10	0.60	85%	0.237	0.106	12.14	<0.001
<i>Sandhi vikriti</i> (Fatigue)	-	-	-	-	-	-	-	-	-

1. Effect of therapy on *Sandhi Shoola* (joint pain):-

All the 10 patients (100%) included under clinical study presented with *Sandhishoola*. The mean score of *Sandhi Shoola* before treatment was 2.7 and after treatment it came down to 0.30 giving 88 % reduction in mean score which was statistically highly significant ($p < 0.001$).

2. Effect of therapy on *Sandhi Shotha* (Joint swelling):-

This symptom was present in all (100%) patients. The mean score of *Sandhi shotha* before treatment was 2.1 and after treatment it came down to 0.100 giving 95.00%

reduction in mean score which was statistically highly significant ($p < 0.001$).

3. Effect of therapy on *Sparsh asahtva*(tenderness):-

The mean score of *sparsh asahtva* before treatment was 2.1 which declined to 0.2 after treatment, thus reducing the mean score by 90% and was statistically significant ($p < 0.001$).

4. Effect of therapy on *Raga* (redness):-

The mean score of *Raga* before treatment was 2.1 which reduced to 0.10 after treatment giving 95% reduction in mean score and was found statistically insignificant ($p < 0.001$).

5. Effect of therapy on Vidaha (Burning):-The mean score of *Vidaha* before treatment was 1.9 which came down to 0.1 after treatment giving 94% reduction in mean score and was statistically significant ($p < 0.001$).

6. Effect of therapy on Granthi (Tophi):-The mean score of *Granthi* before treatment was 0.20 and it remained unchanged with no percentage relief. Data shows statistically insignificant results at $p > 0.05$.

7. Effect of therapy on Sparsh agyatva):-The mean score of *Sparsh agyatva* before treatment

was 0.7 and after treatment it came down to 0.10 with 85% reduction in mean score and was statistically significant ($p < 0.001$).

8. Effect of therapy on kandu (itching):-The mean score of *kandu* before treatment was 0.7. It reduced to 0.1 after treatment with 85% reduction in mean score and was statistically significant ($p < 0.001$).

9. Effect of therapy on Sandhi vikriti (joint deformity):- *Sandhi vikriti* was not present in any of the patients .

2. Objective parameter

Table No.3 - Effect of therapy on Serun Uric Acid

Sr. No	N	Mean Score		Mean Difference	%age	SD±	SE±	t	P
		BT	AT						
1.	10	9.34	6.064	3.276	35.07	1.569	0.496	2.54	<0.05

The mean serum uric acid level before treatment was 9.34 mg/dl and after treatment was 6.064 mg/dl. There was 64.92% reduction in mean

score. The reduction in serum uric acid level after the treatment was statistically significant ($p < 0.05$).

VAS Scale :-

Sr. No	N	Mean Score		Mean Difference	%age	SD±	SE±	t	P
		BT	AT						
1.	10	7.7	1.1	6.6	85.71	0.169	0.053	14.54	<0.001

Effect on VAS Scale:-

All of the 10 patients (100%) included in the study were observed with VAS. Mean score before treatment was 7.7 and after treatment it was reduced to 1.1 with difference of 6.60 and %age relief of 85.71%, 't' value is 14.54 with $p < 0.001$ which is statistically highly significant

Discussion On Effect of Therapy

1. Sandhi Shoola (Joint Pain) :- All the 10 patients (100%) included under clinical study presented with *Sandhishoola*. The mean score of *Sandhi shoola* before treatment was 2.7 and after treatment it came down to 0.30 giving 88 % reduction in mean score which was statistically highly significant ($p < 0.001$). Relief in *Sandhi shoola* may be due to the analgesic and anti-inflammatory effects of *Guggulu*, *Shunthi* and *Vidanga*.

2. **Sandhi Shotha (Joint Swelling) :-** This symptom was present in all (100%) patients. The mean score of *Sandhi shotha* before treatment was 2.1 and after treatment it came down to 0.100 giving 95.00% reduction in mean score which was statistically highly significant ($p < 0.001$).
Relief in inflammation can be attributed to *Guduchi, Guggulu, Haritaki, Vibhtaki* and *Shunthi*.
3. **Sparsh Asahatva :-** The mean score of *Sparsh asahatva* before treatment was 2.1 which declined to 0.2 after treatment, thus reducing the mean score by 90% and was statistically highly significant ($p < 0.001$).
4. **Raaga:-**The mean score of *Raga* before treatment was 2.1 which reduced to 0.10 after treatment giving 95% reduction in mean score and was found statistically highly significant ($p < 0.001$).
5. **Vidaha:-** The mean score of *Vidaha* before treatment was 1.9 which came down to 0.1 after treatment giving 94% reduction in mean score and was statistically highly significant ($p < 0.001$).
6. **Granthi:-**The mean score of *Granthi* before treatment was 0.20 and it remained unchanged with no percentage relief .Data shows statistically insignificant results at $p > 0.05$.
7. **Sparsha Agyatva:-**The mean score of *Sparsh agyatva* before treatment was 0.7 and after treatment it came down to 0.10 with 85% reduction in mean score and was statistically significant ($p < 0.001$).
8. **Kandu:-**The mean score of *Kandu* before treatment was 0.7. It reduced to 0.1 after treatment with 85% reduction in mean score and was statistically significant ($p < 0.001$).
9. **Sandhi Vikriti :-** Sandhi vikriti was not present in any of the patients .

B. OBJECTIVE CRITERIA:

The mean serum uric acid level before treatment was 9.34 mg/dl which after treatment was reduced to 6.064 mg/dl. There was 35.07% reduction in mean score. The reduction in serum uric acid level after the treatment was statistically significant ($p < 0.05$).

All the 10 patients (100%) included under study were observed with VAS. Mean score before treatment was 7.7 and after treatment it was reduced to 1.1 with difference of 6.60 and %age relief of about 85%, 't' value is 14.98 with $p < 0.001$ which was statistically highly significant

DISCUSSION

(A) Probable Mode Of Action Of Drug

In *Ayurveda*, the mode of action of drug is determined by the dominant pharmacodynamic factor of a particular drug namely, *Rasa* (essence), *Guna* (Quality), *Virya*, (potency) *Vipaka* (Post digestion effect) and *Prabhava* (special effect). The drugs act as an antagonist to the involved *Dosha* and causes *Samprapti Vighatan* (breaking of pathogenesis).

In *Samprapti* (Pathogenesis), it is mentioned that vitiated *Rakta* (blood) obstructs the channels of *Vridhh Vata* and obstructed *Vata Dosha* in turn vitiates *Rakta Dhatu* (blood). Both *Vata Dosha* and *Rakta Dhatu* (blood) get *Avrita* with each other to cause *Ruk* (pain), *Daah* (burning sensation), *Toda* (pricking pain) etc. In this way, *Vatarakta* (gout) manifests.

Along with independent vitiation of *Vata Dosha* and *Rakta Dhatu*, excessive intake of *Ahita Aahar-vihara* (unwholesome food-daily regimen) leads to *Ama* formation which causes *Jathraagni* and *Dhatwaagni Mandatya*. With the involvement of *Ama* with *Rakta* (blood), *Rakta Dhatu* gets more vitiated. Normally *Rakta* has *Drava Guna*, due to which it is able to flow smoothly in both *Dhamani* and *Sira*. But when associated with *Ama*, it becomes *Pichhila* (sticky) and *Guru* (heavy), causing obstruction in the normal path of *Vayu*. Due to *Guru Guna* of *Sama Rakta*, it moves along with gravity and obstructs path of *Vridhh Vata* in joints. *Khavaigunya* in *Sandhis* (joint) and obstructed *Vata* causes *Sthana sanshrya* in *Twaka* (skin), *Mamsa* (muscles) and *Sandhis* (joints). It is manifested as *Sandhi shola*

(joint pain), *Shotha*(inflammation), *Twaka vaivarnaya*(discoloration), *Raga*(redness), *Kandu*(itching), *Vidaha*(burning sensation), *Granthi*(cyst) etc.

The drugs selected for *Vasti* (enema) are mainly *Madhur*(sweet), *Katu*(bitter) , *Tikta*(pungent) and *Kashaya rasa*(astringent). *Ushna virya* (hot) and having *Vata shamaka* properties. *Vasti* contains *Ksheer* (milk) as *Prakshepa dravya* which adds to its *Vatarakta shamaka* property.

It is well Known fact in modern science also that drugs administered through rectal rout are more beneficial than oral rout.

Rectal mucosa is highly vascularized. Drugs administered in rectum which is unionized and lipid soluble gets readily absorbed in to rectal mucosa. Drugs given through rectal rout absorbed in two ways

- ❖ The drugs absorbed through superior and middle rectal veins which goes directly to systemic circulation and do not undergo first pass metabolism (hepatic metabolism).
- ❖ Rectal mucosa has extensive lymphatic circulation which facilitates absorption and systemic exposure of absorbed drugs.
- ❖ *Guduchi tail* mentioned in *Vatarakta* (gout) by almost all *Acharya* so *Guduchi tail* is selected for *Anuvasana vasti* and *Niruha vasti*.
- ❖ *Murchhita til tail* used to prepare *guduchi tail* which is best among the vegetable origin *Sneha dravya*. It is considered to have best *Vatashamaka* properties among other *sneha dravya*.
- ❖ Tail has got *Ushna*(hot), *Snighdh* (uncoustness), *Sukshma* properties by virtue of which it reaches deeper *Dhatu*s like *Asthi* (bone) and *Majja* (bone marrow) by penetrating through minute channels. *Til tail* (sesame oil) is *Vedana sthapaka*(analgesic), *Snehana* (oleation), *Sandhaniya*, *Deepana* (appetizer), *Rasayana* (rejuvenator). It has *Tikta rasa* (pungent) which possess *Deepana* (appetizer) and *Pachana* (digestive) properties. Leading to *Jatharagni* and *Dhatvagni mandata*

nasha. Guduchi (*Tinospora cordifolia*) itself is one of the best drugs for *Vatarkta* (gout) and it also has anti-inflammatory properties.

Madhuyashti (*Glycyrhiza glabra*) the main content of *Vasti*(medicated enema) is good *Vata* and *Pitta shamaka dravya*. It has *Ushna veerya* (hot) and *Balya* (strengtheners) properties. *Ksheer* (milk) used as *Prakshepa dravya* helps in *Vata shamaka*. Both having *Madhur vipaka* and *Guru snigdha guna* leads to *Shamana* of *Vata* and *Rakta* (blood) simultaneously.

Hence *Yashtavyah niruha vasti* has been selected for present clinical study.

(B) Mode Of Action Of *Bodhivriksha Kashaya*

Bodhi vriksha kashaya used as *Shamana* drug. It contains only one content that is bark of *Ashwatha* (*Ficus religiosa*). It is mentioned as best drug in *Tridoshaja vatarakta* by *Acharya Charaka* (Ch.Chi. 29/154). It has *Tridosha-shamaka* properties. It has *Kshaya* and *Madhura ras* which acts as *Vata* and *Pittahara*, *Sheeta veerya* (cold) again leads to *Shamana* (pacification) of *Rakta*(blood). *Guru Snighdha guna* (heavy) and *Katu vipaka* (bitter) leads to *Kaphashamaka* property. It has *Vedana Sthapaka*(analgesic), *Raktashodhaka* (blood purifier), *Mridu virechaka* (soft purgation) properties. Chemical constituents are beta sitosterol, lanosterol, bergapton etc. they possess properties like smooth muscle relaxants, anti-inflammatory action which may be responsible for its anti-arthritis property.

CONCLUSION

The conclusion drawn from the clinical study is as follows:-

- ❖ The present study entitled as “A clinical study to evaluate the effect of *Yashtavyah niruha vasti* and *Bodhi vriksha kashaypanam* in the management of *Vatarakta* w.s.r. to Gout” is just a primitive work and an effort to provide evidence-based efficacy and

- ❖ safety of time tested *Ayurvedic* procedures like *Vasti* (medicated enema) and *Kashyapanam*.
- ❖ With our changing habits, the prevalence of *Vatarakta* (gout) is increasing day by day. It is a metabolic disorder and is associated with many health issues like Obesity, Diabetes Mellitus, Hypertension, CAD and Renal complications.
- ❖ The *Vasti* (medicated enema) has shown improvement in most of the clinical features. Reduction in the serum uric acid level was also noticed, results were statistically significant.
- ❖ No untoward effect was noticed during the study. On the basis of above study, it can be concluded that the *Vasti* (medicated enema) is effective in the management of *Vatarakta* w.s.r. to Gout.

Acknowledgment: Nil.

Financial Support: Nil.

Conflict of Interest: Nil

REFERENCES

- 1.Kaviraj Ambikadutta shashtri , Sushruta samhita , volume -1, Chikitsa Sthana chapter 5 , verse 5. Published by Chaukhamba Sanskrit sansthana, Reprint 2014,pp-675
- 2.Dr. Bramha nand tripathi Charak Samhita, volume -2, Published by Chaukhamba , Bhartiya acadamy Reprint-2013, Chikitsa Sthana , Adhyay 29 , Verse - 11.pp-564
- 3.Dr. Bramha nand tripathi Charak Samhita, volume -2, Chikitsa Sthana , Adhyay 29 , Verse-14. Published by Chaukhamba , Bhartiya acadamy Reprint-2013,pp-765
4. Dr. Bramha nand tripathi Charak Samhita, volume -2, Chikitsa Sthana , Adhyay 29 , Verse-23 Published by Chaukhamba , Bhartiya acadamy Reprint-2013,pp-435
5. Dr. Bramha nand tripathi Charak Samhita, volume -2, Chikitsa Sthana , Adhyay 29 , Verse-36. Published by Chaukhamba , Bhartiya acadamy Reprint-2013,pp-254
6. Dr. Bramha nand tripathi Charak Samhita, volume -2, Chikitsa Sthana , Adhyay 29 , Verse-88. Published by Chaukhamba , Bhartiya acadamy Reprint-2013,pp-453