ORIGINAL RESEARCH ARTICLE: CLINICAL STUDY

A CLINICAL STUDY TO EVALUATE THE THERAPEUTIC EFFECT OF SHILA JATHU RASAYANA IN SHONITA DUSHTI

PRASHANT JAIN1 SHRINIVASA ACHARYA2

ABSTRACT

Background: Hypertension being a chronic illness constitutes an important public health challenge because of its prevalence and concomitant increase in the risk of cardiovascular diseases. The arterial hypertension having no definable cause is designated as essential hypertension. The essential hypertension when thought adapting the principle of Dosha Dhatu and Mala theory, the pathology seems to be centered on Shonita Dhatu and Tridosha. Unique category of clinical presentations comprising Shiroruk, Klama, Dourbalya, Brama, Buddisammoha are symptoms of Shonita dushti akin to manifestations of hypertension. It is an important duty of Ayurvedic research scholars and physicians to study the theory of hypertension and to chalk out its proper approach of treatment. Aims: To study the therapeutic effect of Shodhana poorvaka Shilajatu Rasayana in patients suffering from Shonita dushti. Research Design: A Single blind clinical study with Pre-test & Post-test design. Methods and Material: 20 Patients suffering from Shonita dushti who are fulfilling Diagnostic and inclusion criteria are treated with Shodhana Poorvaka Shilajathu Rasayanain a dose of 24gms with 100ml of milk OD. Statistical analysis used: The data were graded based on standard methods and analyzed statistically using Paired ‘t’ test. Results: The administration of Shilajatu Rasayana proved to be effective in decreasing the severity of the symptoms. There was marked reduction in mean score of Systolic BP and Diastolic BP. Conclusions: Shilajatu rasayana was effective in reducing the symptoms of Shonita Dushti and elevated arterial pressure.

Key Words: Shonita dushti, Hypertension, Virechana, Shilajatu Rasayana

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INTRODUCTION:
Hypertension being a chronic illness constitutes an important public health challenge because of its prevalence and concomitant increase in the risk of cardiovascular diseases. In an analysis of worldwide data for the global burden of HTN, 20.6% of Indian men and 20.9% of Indian women were suffering from HTN in 2005. The rates for HTN in percentage are projected to go up to 22.9 and 23.6 for Indian men and women, respectively by 2025. Recent studies from India have shown the prevalence of HTN to be 25% in urban and 10% in rural people in India.

Blood pressure is the pressure exerted by blood on the walls of the blood vessel. An elevated arterial pressure is sometimes asymptomatic, readily detectable, and usually easily treatable and often leads to lethal complications if left untreated.

The arterial hypertension having no definable cause is designated as essential hypertension. It is also known as primary or idiopathic hypertension. Explanation of Hypertension in realm of Ayurveda is a moot point till date. Attempts are made to explain hypertension according to the morbidity of Dosha. The affliction of different Dhatu(tissue) is argued in the pathogenesis of hypertension. Few names are suggested representing the essential hypertension. Some of the Academicians of Ayurveda suggested different names to exemplify the phenomena of hypertension. Although none of these names are universally accepted, in the fraternity of Ayurveda. Following is the small list of terms referred to essential hypertension coined by many of the academicians.

- Raktagata vata (Y.N. Upadhyaya – 1950)
- Rakta Vikshepa (Shukla J.P.- 1954)
- Rakta Chapa (Ravani. & Mahaishkar U.B. 1967)
- Rakta Sampida (Pandey S.B. 1972)
- Vyana Bala (Triguna B. 1974)
- Dhamanipratichaya (Athawale A.D.), Rasa Bhara (Athawale T.S. 1979)
- Rudhira Mada (Dwivedi V.N. 1991)
- Raktavata (Sharma P.V. 1993).

Leaving behind all these names, the essential hypertension when thought adapting the principle of DoshaDhatu and Mala theory, the pathology seems to be centered on Shonitadhatu and Tridosha. To make the concept clear, affliction of RaktaDhatu may cause unique group of illness pertaining to different Srotas. Abnormal colouration of body is manifestation of Shonita Dushti and is seen diseases like Pandu, Kamala. Another characteristic of Shonita Dushtiis different types of skin lesions that are collectively called as Kushta. Bleeding tendency is also indicative of affliction of Raktadhatu and resultant
diseases are Raktapitta, Raktaprdrada, Raktameha and so on. A group of vascular disorders explained under Vatarakta. And some of mucosal inflammations as Mukapaka, Akshiraga, Upakusha, and Pootigrana are also regarded as maladies of Shonitha dushti.

The plethora of diseases pathognomonic of Shonita Dushti does not end here. Unique category of clinical presentations comprising Shiroruk (headache), klama (fatigue), Anidra (insomnia), Brama (giddiness), Buddisammoha (clouding of consciousness), Kampa (tremours) etc donot fall under any of the above said class. Also it is interesting to note that all these symptoms are akin to manifestations of hypertension. More to add, Mada, Moorcha and Sanyasa, the different diseases caused by Shonita dushti are described also as progressive manifestation of increasing Shonita Dushti. So also, such a sequel is equally true in relation to malignant hypertension.

To maintain good health, hypertensive patients are looking towards Ayurveda. So it has become an important duty of Ayurvedic research scholars and physicians to study the theory of hypertension and to chalk out its proper approach of treatment.

**MATERIALS AND METHODS:**

**Study design:** A single group, open labelled, uncontrolled, prospective clinical study with minimum 20 patients with pre and post test design

**Study population:** Urban and rural population from Udupi district.

**Study sample:** Randomly selected and treated in single group.

**Sample size:** 20 patients fulfilling the diagnostic and inclusion criteria were selected for the study.

**Study setting:** Study was conducted in Shri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Udupi District, Karnataka, India which is an Academic Institution. Patients from inpatient department of hospital were included in the study.

**Trial drug details:**

Shilajathu Rasaayana
Shilajatu12gm + Lohabhasma 12gm

<table>
<thead>
<tr>
<th>RASA</th>
<th>ANURAS A</th>
<th>GUNA</th>
<th>VEERYA</th>
<th>VIPAKA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anamla, Kashaya</td>
<td>-</td>
<td>-</td>
<td>Natyushna Sheeta</td>
<td>Katu</td>
</tr>
<tr>
<td>Tikta, Katu</td>
<td>Kashaya</td>
<td>Sara</td>
<td>Ushna</td>
<td>Katu</td>
</tr>
<tr>
<td>Tikta, Katu</td>
<td>-</td>
<td>-</td>
<td>Natyushna</td>
<td>Katu</td>
</tr>
</tbody>
</table>

**Properties of Loha bhasma**
Rasa : Tikta, Madhura, Kashaya, Vipaka : Madhura
Virya : Sheeta
Guna : Ruksha, Guru
Doshaghnata : Kaphapittasamana
Varna : PakvaJambhuphalavarna

Method of administration:
Shilajatu mixed with Lohachhoorna should be taken with milk.

Diagnostic criteria:
1. Patients with clinical features like Shiroruk, Krodaprachurata, Tamasoatidarshana, Brama, Dourbalya.

Table No 2: Inclusion criteria

<table>
<thead>
<tr>
<th>Stage</th>
<th>Systolic BP in mm of Hg</th>
<th>Diastolic BP in mm of Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE 1</td>
<td>140-159</td>
<td>90-99</td>
</tr>
<tr>
<td>STAGE 2</td>
<td>160-179</td>
<td>100-109</td>
</tr>
</tbody>
</table>

Inclusion Criteria:
1. The patients suffering from stage 1 and stage 2 essential hypertension were taken for the study.
2. Patients may be presenting with symptoms of Shonita Dushti that include head ache, dizziness, irritability, intolerance, easy fatigability
3. Patients in whom Snehapanais indicated.
4. Patients in whom Virechana is indicated.
5. Patients aged between 16 to 70 years.

Exclusion criteria:
1. The patients suffering from stage 3 and stage 4 essential hypertension were excluded from the study; the systolic and diastolic pressure of the same is depicted in the

Table no 3: Exclusion criteria

<table>
<thead>
<tr>
<th>Stage</th>
<th>Systolic BP in mm of Hg</th>
<th>Diastolic BP in mm of Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE 3</td>
<td>180-209</td>
<td>110-119</td>
</tr>
<tr>
<td>STAGE 4</td>
<td>&gt;210</td>
<td>&gt;120</td>
</tr>
</tbody>
</table>

2. Patients suffering from Secondary hypertension
3. Patients suffering from Hypertension with complications such as cardiovascular and cerebrovascular diseases.

**Investigation:**
following hematological and biochemical and ancillary investigations are carried out as a routine procedure.
1. Hb % (Acid haematin method)
2. Total leukocyte Count
3. Differential Count
4. Erythrocyte Sedimentation Rate (Westergrens method)
5. Lipid profile (End point method)
6. ECG

**Criteria of assessment:**
Adopting the visual analogue scoring method, symptoms of the illness like Shiroruk, Krodapracurata, Brama, Tamasaatidarshana, Atidourbalya etc. and physical signs like Blood pressure etc. as well as lipid profile such parameters was taken as assessment criteria in this study.

Patients were assessed on BT, 7th day, 14th day, 21st day and follow up after 15 days.

<table>
<thead>
<tr>
<th>Table no 4: Assessment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SYMPTOMS</strong></td>
</tr>
<tr>
<td>Shiroruk</td>
</tr>
<tr>
<td>Krodapracurata</td>
</tr>
<tr>
<td>Akshiraga</td>
</tr>
<tr>
<td>Bhrama</td>
</tr>
<tr>
<td>Atidourbalya</td>
</tr>
<tr>
<td>Tamasaatidarshana</td>
</tr>
</tbody>
</table>

**Intervention:**
**Drug:** ShilajathuRasayana
**Dose:** 24gms

**Time of administration:** Early morning empty stomach
**Anupana:** 100 ml of milk
Duration: 21 days

All the recruited patients were admitted in the SDM Ayurveda hospital. Severity of the illness/symptoms was recorded as per the assessment criteria. Initially they were treated with oral administration of Chitrakadivati in a dose of 250 mg three times a day on the first day for Deepana Pachana purpose. After assessing the Agni (digestive fire) and Koshta of patient, Snehapana with Guggulutiktaka grita was carried out. This extended from 5 days to 7 days. The first dose was of 50 ml in each patient. After achieving Samyaksnigdhalakshana, the very next day the patient was subjected to Abhyanga(massage) with Tilataila and Bashpasweda (dashamulakvatha) for four days and on the fourth day Virechana karma(purgation) was carried out with Trivritthleha in a single dose of 40 grams. Patients were thoroughly observed to assess the effect of virechana karma. Following Virechana karma the patients were kept on Peyadi karma for 5 days Patients were discharged from the hospital and Shilajaturasayana was given on domiciliary basis.

After completion of dietary regimen, Shilajatu rasayana in a dose of 24 gms was orally administered in early morning in empty stomach with 100 ml of milk. the same regimen was continued for 21 days. Blood pressure was recorded daily during the hospital stay. The patients were again assessed for severity/symptoms by the completion of this regimen. All the patients were observed weekly at OPD level during the period of Shilajatu Rasayana as well as follow up.

OBSERVATION AND RESULTS:

Observations:
Among 20 patients 35% were having age ranging from 46-55, 60% of males and 40% of females, Analysis of the 20 patients revealed that 85% were married while 15% of patients were unmarried, the patients belonging to Hindu, Muslim, Christian religions were present in the study. Among them 85% of patients were Hindus, 5% percent were Muslim and 10% belonged to Christian community, the analysis showed maximum percentages of patient i.e. 65% were urban dwellers and only 35% were rural dwellers, The study showed that majority of patients were Graduates 35%, followed by 30% of uneducated and 5% Primary and Higher primary class showed 10% , 5% of postgraduation, the study revealed that among 20 patients 30 % were labourers, 25% were doing other jobs , 20% each was contributed by Housewife and Employee and 5% were businessman, The study revealed that 50% of patients belonged to Middle class
while 15% were of Poor and lower middle class each, 20 % of patients were rich, 55% of them did not have any habits, while 25% had habit of alcohol, 10% had habit of snuffing, and 5% each had addiction for Smoking and Tobacco Chewing respectively. Both Vegetarian and Non-vegetarian are observed in study. Among which 95% patients used to have both types of diet while 5% were Vegetarian, The study viewed that maximum were of Madhyama Koshta accounting 50%, On the basis of phenotypic characters the prakriti(constitution) of all the twenty patients were studied. maximum patients showed Vatapittajaprakriti accounting 25%, 20% each belonged to Kaphajaand Pittakaphaja, and 15% each belong to vataja and Pittaja group. 5% of patients had Vatakaphaaprakriti, 30% were of Medasara, 50% patients were of MadhyamaSamhanana, 60% of them had MadhyamaSatva. The study revealed that 45% of patients had MadhyamaAbhyavaran Shakti, 45% of patients had MadhyamaJarana Shakti, 40% were of MadhyamaVyayam Shakti, 90% had mild hypertension, and 10% had moderate hypertension, 60% of patients had duration of illness more than a year, 70% of people had Shiroruk, Brama was seen in 50% of people, 35% had Krodapracurata, 20% had Tamasaatidarshana, 25% of people presented with Dourbalya.

RESULTS:
Clinical study done on 20 subjects showed following improvements.

Effect on symptoms of shonita dushti:

Table no 5: showing significant changes on symptoms of shonita dushti

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>T value</th>
<th>P value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiroruk</td>
<td>5.700</td>
<td>4.450</td>
<td>1.251</td>
<td>0.280</td>
<td>4.467</td>
<td>P= &lt;0.001</td>
</tr>
<tr>
<td>Krodapracurata</td>
<td>2.600</td>
<td>1.750</td>
<td>1.843</td>
<td>0.412</td>
<td>2.062</td>
<td>0.053</td>
</tr>
<tr>
<td>Brama</td>
<td>3.000</td>
<td>2.250</td>
<td>1.070</td>
<td>0.239</td>
<td>3.135</td>
<td>0.005</td>
</tr>
<tr>
<td>Tamasaatidarshana</td>
<td>3.400</td>
<td>2.600</td>
<td>1.005</td>
<td>0.225</td>
<td>3.559</td>
<td>0.002</td>
</tr>
</tbody>
</table>
Effect of *shilajathu rasayana* on improvement of symptoms like *Shiroruk* ($P<0.001$), *Bhrama* ($P<0.001$), *Tamsatidarshana* ($P<0.001$), *Dourbalya* ($P<0.001$) were highly significant. Table no 5

Table no 6: Showing significant changes in Lipid Profile

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean BT</th>
<th>SD BT</th>
<th>SE BT</th>
<th>T value</th>
<th>P value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cholesterol</td>
<td>203.3</td>
<td>180.9</td>
<td>26.368</td>
<td>3.791</td>
<td>$P = 0.001$</td>
<td>HS</td>
</tr>
<tr>
<td>Tryglycerides</td>
<td>139.9</td>
<td>113.5</td>
<td>40.885</td>
<td>2.882</td>
<td>$P = 0.010$</td>
<td>HS</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td>48.65</td>
<td>47.90</td>
<td>18.632</td>
<td>0.180</td>
<td>$P = 0.859$</td>
<td>Significant</td>
</tr>
<tr>
<td>LDL</td>
<td>116.1</td>
<td>111.0</td>
<td>21.558</td>
<td>1.058</td>
<td>$P = 0.303$</td>
<td>HS</td>
</tr>
<tr>
<td>VLDL</td>
<td>28.50</td>
<td>23.45</td>
<td>8.805</td>
<td>2.565</td>
<td>$P = 0.019$</td>
<td>HS</td>
</tr>
</tbody>
</table>

The administration of *Shilajaturasayana* after *virechana* was found to be effective in reducing the Total cholesterol. This was statistically analyzed with help of Paired’$t’$ test and proved to be highly significant as $P=0.001$. There is marked reduction in Triglycerides after the treatment. Statistical analysis with help of paired’$t’$ test proved to be significant.
as $P=0.010$. There was marked reduction in the LDL after completion of treatment when compared to before treatment. This was statistically analyzed with help of Paired ‘$t$’ test and proved to be significant as $P=0.303$.

Decrease in the VLDL was observed in whole course of treatment and proved to be statistically significant as $P=0.019$. (Table no 6)

**Effect on Systolic blood pressure : (AT 21)**

<table>
<thead>
<tr>
<th>Mean(S.E±)</th>
<th>Difference in mean</th>
<th>Paired ‘$t$’ Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT</td>
<td>AT</td>
<td></td>
</tr>
<tr>
<td>143.200</td>
<td>136.000</td>
<td>7.200</td>
</tr>
<tr>
<td>(1.762)</td>
<td>(1.747)</td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>4.275</td>
<td></td>
</tr>
<tr>
<td>S.E.M.</td>
<td>0.956</td>
<td></td>
</tr>
<tr>
<td>‘$t$’</td>
<td>7.532</td>
<td></td>
</tr>
<tr>
<td>$P$</td>
<td>$P&lt;0.001$</td>
<td></td>
</tr>
</tbody>
</table>

*Shilajathurasayana* provided 4.89% reduction in the systolic BP.

**Effect on Diastolic blood pressure : (AT 21)**

<table>
<thead>
<tr>
<th>Mean(S.E±)</th>
<th>Difference in mean</th>
<th>Paired ‘$t$’ Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>BT</td>
<td>AT</td>
<td></td>
</tr>
<tr>
<td>91.000</td>
<td>84.100</td>
<td>6.900</td>
</tr>
<tr>
<td>(0.979)</td>
<td>(0.888)</td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>5.170</td>
<td></td>
</tr>
<tr>
<td>S.E.M.</td>
<td>1.156</td>
<td></td>
</tr>
<tr>
<td>‘$t$’</td>
<td>5.969</td>
<td></td>
</tr>
<tr>
<td>$P$</td>
<td>$P&lt;0.001$</td>
<td></td>
</tr>
</tbody>
</table>

7.58% reduction in diastolic BP (Table No 8)

**Table No9 :Effect on systolic BP during course**

<table>
<thead>
<tr>
<th>Value</th>
<th>BT</th>
<th>7$^{th}$ day</th>
<th>14$^{th}$</th>
<th>21$^{st}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>143.200</td>
<td>140.05</td>
<td>138.2</td>
<td>134.737</td>
</tr>
<tr>
<td>Standard error</td>
<td>1.762</td>
<td>1.879</td>
<td>1.794</td>
<td>1.272</td>
</tr>
</tbody>
</table>

Mean score of systolic BP before treatment was 143.2 reduced to 140 after weak of hospital admission. After 14 th day of *Shilajaturasayana* mean score reached to 138.2, on 21 st day it was 134.7.
Figure No 1: Effect of Systolic BP during course of treatment

Effect of treatment on Diastolic BP during course of treatment:

Mean score of Diastolic BP before treatment was 91 reduced to 86.7 after week of hospital admision. After 14 th day of shilajatu rasayana mean score reched to 85.7, on 21 st day it was 83.7

Table No 10: Effect of treatment on Diastolic BP during course of treatment

<table>
<thead>
<tr>
<th>Value</th>
<th>BT</th>
<th>7th day</th>
<th>14th</th>
<th>21st</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>91.000</td>
<td>86.700</td>
<td>85.700</td>
<td>83.789</td>
</tr>
<tr>
<td>Standard error</td>
<td>0.979</td>
<td>0.932</td>
<td>0.898</td>
<td>0.877</td>
</tr>
</tbody>
</table>
DISCUSSION:
Maximum number that is 35% of patients belonged to age group of 46-55. The different survey studies at different places have shown prevalence of the essential hypertension during the 4\textsuperscript{th} and 5\textsuperscript{th} decade of the individuals. Maximum numbers of patients in this study were Graduates (35 %). Though the education status does not have any influence on disease. The higher incidence of the illness in the literates only reflects the literacy of the population in and around Udupi. The present study revealed that the highest rate of disease is seen in urban dwellers rather than the rural dwellers which are true and this may be due to the mental stress, sedentary life style. There were about 25 % patients had alcohol addiction which has inclinatory effect on vascular system, but incidence rate of smoking was less in this study (5%) on the other hand use of tobacco snuff had predominance, and it is one of the etiological factor to trigger blood pressure due to Nicotine present in it. Alcohol and smoking are considered as the risk factor for Essential Hypertension In the present study 95% of patients had mixed diet. Non-vegetarian diet is low in fibers and high in fat content, which may be a predisposing factor for Hypertension.

In this study 90% patients were having family history of hypertension. Textual references also mention considerable evidence that Blood Pressure levels are determined due to specific genetic factors. In this study maximum i.e. 25% of patients were of Vata Pitta Prakruti. Vata-Pitta prakriti patients were found to be maximized in the study, while none of the patients had Samaparakriti. It indicates that persons having more Vata and Pitta in their constitution are hypertensive.

Among the 20 patients selected for study, about 70 % of people had Shiroruk(headache), Brama(giddiness) was seen in 50% of people; 35% had Krodaprachurata (anger); 20 % had Tamasaatidarshana (flashes before eyes); 25 % of people presented with Dourbalya(general debility). All the above said symptoms were due to Shonita Dushti and Tridosha Dushti individually or together. Once the Shonita Dushti is managed there was reduction in the symptoms.

Analysis of effect of therapy
The severity of illness, subjective symptoms and objective criteria's are estimated with the help of standard parameters. All the twenty patients taken for the study were assessed before and after treatment to know the favourable response of the regimen.

Effect on Systolic pressure:
A statistically significant reduction in the mean score of Systolic blood pressure was observed at the end of treatment. The Systolic blood pressure falls to 136.000 from 143.200 with a difference of mean 7.200 with P value = <0.001 which is statistically significant.

**Effect on Diastolic pressure:**
The mean score of Diastolic pressure before treatment gradually decreased after each procedure. The Diastolic blood pressure falls to 84.100 from 91.00 with a difference of mean 6.900, with P value <0.001 with help of Paired’t’ test giving statistically highly significant result.

**Effect on Shiroruk:**
There was very effective result on shiroruk after course of whole regimen. It was noticed that after each procedure there was gradual decrease in the mean score and after last therapy of oral administration of Shilajaturasayana the statistical analysis proved that the change occurred is highly significant as (P<0.001).

**Effect on Krodaprachurata:**
The mean score prior to treatment was 2.600 which reduced to 1.750 with mean difference of 0.850 after treatment. The statistical analysis by Paired’t’ test did not proved the statistical significance as P= 0.053.

**Effect on Brama:**
Marked reduction in the score of Brama before treatment was seen that gradually decreased at end of therapy. Change occurred is statistically significant as (P= 0.005).

**Effect on Tamasaatidarshana:**
The mean score of Tamasaatidarshana prior to treatment was 3.400 which reduced to 2.600 with mean difference of 0.800 after treatment. The statistical analysis by Paired’t’ test significance of the improvement as P = 0.002. and the change is not due to chance factor

**Effect on Dourbalya:**
The Dourbalya was markedly reduced and the result was statistically significant as P=0.110 this means Shodhanapoorvaka administration of Shilajaturasayana proved to reduce Dourbalya.

Though the whole regimen belongs to the category of Apatarpama treatment, improvement in the physical strength may be attributed to SrotoShodhaka and Rasayana effect of the treatment.In the above paragraphs the results obtained in this study was discussed. From above all it is clear that definite improvement was observed in all the patients after administration of Shilajaturasayana

Hypertension is reckoned to be an illness caused due to the erroneous life style. Occurrence of the illness in population of sedentary life style is well known. This life style is characterized by positive energy balance by way of excessive consumption and
relatively less utilization. In a long run, the positive energy balance has an incriminatory effect on the fat metabolism and its sequel. It is established that this sedentary habits leads to abnormal accumulation of cholesterol in the body. Circulating cholesterol when gets deposited in vessels, and the phenomena is popularly referred as atherosclerosis, which in turn increases the peripheral vascular resistance. This is how the pathogenesis of essential hypertension surfaces. Atherosclerosis is one of the most leading predisposing factor of Essential HTN.

Present study has showed that Shilajaturasayana helps in reducing elevated arterial pressure to near normal, also relieving the symptoms of Shonita Dushti partially if not completely. since the study was carried out for short duration of 36 days, considering the marked improvement in this period one will get better response if same is continued for longer duration. As disease is reckoned for its chronic course further continuation of medication is justified. Or else this study will pave way for more clinical trials in this regard with more prolonged course.
Figure No.3 Hypothetical samprapti chart on Hypertension in Ayurveda

Probable mode of action of shilajathurasayana:
Due to excess intake of Drava, snigda, Ahara in combination with lack of physical exertion behaves as Santarpana Nidana. This Santarpana Nidana in the long run leads to abnormal accumulation of Kapha and Medas. Further this accumulation of Kapha and Medas sexhibits the prediction of involvement of Raktamarga. To add, accumulation eventually progress to obstruction in these vessels and is now referred as Margavarana. It is worth mentioning here that Margavarana is a generalized process and the root cause of many fatal disease. Shonita Dushti / essential hypertension, Shiromarmabhighta, Hridroga, Basti Marmabhighta, Vataraka, Gulma are some of the manifestation of the Margavarana due to Kapha and Medas. This concept of Shonitadusti and the Santarpananidana is best treated by the Rasayanacikitsa. The whole course of treatment includes preparation of the patients with Virecana karma followed by Rasayanacikitsa with shilajatuloharasayana. Collectively this course of treatment may be catagorised as Apatarpanacikitsa. Virecana karma is listed as an Apatarpana procedure, and the properties of Shilajatu and Lohabhasma confirms its Apatarpananature.

Virechana is one such treatment modality where lot of Drava dhatu is expelled. It is also considered as Apatarpaka. By this there will be elimination of Kapha and Medas thus helps in reduction of cholesterol. This also proved in present study ,as there is marked reduction in the lipid levels after Virecana treatment. Shilajatu even though a Rasayana Dravya,it does not increase Rasa Raktadidhatus ,rather it reduces the Kapha and Medas by virtue of its Ruksha, lekhana guna.

CONCLUSION:
Shonita Dushti can lead to multitude of disease from trivial mouth ulcer to bleeding disorders.Diseases caused due to Shonita Dushtialso includes a separate set of clinical symptoms like Shiroruk, Brama, Tamasatidarshana, Atidourbalya, Krodaprachurata, Akshiraga. These symptoms are similar to manifestation of symptomatic Essential Hypertension
From the list of etiological factors excess salt intake ,excess alcohol consumption, good nutrition with sedentary habits , mental stress, physical strain are best related to predisposing factor of Esential Hypertension.
Shonita Dushti, Shonitamado,Moorcha and Sanyasa are progressive disorders and can be explained by sequelae of Hypertension .Shilajaturasayana is effective in reducing the symptoms of Shonitadusti ,effective in reducing the elevated arterial pressure , can
be considered as concrete treatment of Shonita Dushti /Essential hypertension. An effective vyadhihararasayana with definite Apatarpana effect on the body.

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