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A Web based quarterly online published peer reviewed National E-journal of Ayurveda.

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1. A Comparative study to observe the effect of Meditation in Hypertension

Dr. Rajesh Kolarkar, Professor, YMT Ayurvedic Medical college, Mumbai.
Dr. Rajashree Kolorkar, Reader, Smt. K.G. Mittal Ayurved college, Mumbai

Aims and Objectives:
Primary objective was to evaluate and compare the change or reduction in systolic and diastolic blood pressure (BP) in sitting position from baseline (week 0) to the end point (Week 12) between two groups, to evaluate and compare the change or reduction in Stress value between two groups and Secondary Objective was to observe and compare change in lipid profiles between two groups.

Methods:
In a comparative interventional study Group A 30 patients of hypertension of male and female were given training in relaxation and meditation. Study was performed in YMT Ayurvedic Medical College and Smt. K.G. Mittal college and Sanjivani Ayurvedic centre Mumbai. The study was conducted on 30 patients including both male and female practicing daily meditation for 12 weeks to observe effect of meditation in hypertension. This showed an overall reduction of systolic and diastolic blood pressure.

Results:
In a controlled trial, 30 patients with systemic hypertension were given training in relaxation and meditation. As a result there was a significant reduction in both systolic and diastolic pressure in 75% of the patients. In 50% of the patients it was also possible to reduce antihypertensive drugs.

Conclusion –
the study has shown a significant reduction in both systolic and diastolic pressure

Introduction:
Meditation is the highest method of mystical practice. Charakacharya has described Yoga is the last and best medicine for all types of misery. In the classic scheme of advancement through the stages spiritual development outlined by Patanjali meditation (Dhyana) is on the seventh place. It is preceded by learning the ethical principles, the rules of hygiene, making the body healthy with the help of special physical exercise, cleansing, learning to control of the mind and many other things.

Vipassana Meditation is the process of self purification by self observation one being by observing the natural breath to concentrate the mind then with a sharpened awareness. One proceeds to observe the changing nature of body and mind and experiences the universal truth of impermanence suffering agelessness. This truth realization by direct experience results in mental purification. Numerous scientific investigations have undoubtedly proved that psychological stress can have disastrous effect on the physical health. In diseases like hypertension, diabetes, acidity, Peptic ulcer, and Bronchial asthma psychological stress is one of the factors for causing or complicating the disease process and also disturbs recovery with pharmacological treatment

Mode of action:
Psychological stress stimulates the secretion of the hypothalamic factors which in turn derange the secretion of the pituitary hormones. The hormonal changes disorganize the metabolism and the physiology of the organs. This change disturbs our psyche.

Disease:
Hypertension or high blood pressure is a chronic medical condition in which the systemic arterial blood pressure is elevated.

In the year 2000 it was estimated that nearly one billion or 26% of the adult population had hypertension worldwide. Persistent
hypertension is one of the risk factors for stroke, myocardial infarction, heart failure, and arterial aneurysm and a leading cause of chronic kidney failure. Patient has to spend lot of money on the treatment of hypertension.

Current method of staging blood pressure
Systolic Diastolic
Normal 120 or <120 <80
Pre hypertension 120 - 140 80 to 90
Stage – I Hypertension 140 – 160 90 to 100
Stage – II Hypertension >160 >100
Only when the disease is advanced some persons displays signs and symptoms of high blood pressure Such as headache, blurred vision, nausea and dizziness. Most of the people do not seek medical care until they have more severe symptoms from the organ damage that long term (chronic) high blood pressure can cause.

Subjects and methods:
The goal of treatment is to reduce blood pressure so that you have a lower risk of complication and to save the expense on medicine.

High blood pressure can be controlled with diet, medical and life style changes. There are following main classes of drugs used for controlling blood pressure Diuretics, Beta blocker, Ca channel blocker, ACE inhibters etc.

Despite all the advances in hypertension diagnosis and therapy there are many patients who develop complex side effect and also remain uncontrolled. Above no one class is unable to control hypertension and treatment is very expensive.

Primary objective:
To evaluate and compare the change or reduction in systolic and diastolic blood pressure(BP) in sitting position from baseline (week 0) to the end point (WEEK 12) between two groups.

Secondary Objective:
To observe and compare change in lipid profiles between two groups.

Treatment:
Eligible patients were given daily one hour meditation for 12 weeks and explained good conducts.

Study population:
Total of minimum 60 patients were enrolled in the study and randomized such that there were 30 patients in each group. To achieve this goal we were enrolled 80 patients. Among 80 patients 10 patients dropped out from the study

Inclusion criteria:
All the patients will be selected and followed up by cardiologist in the study
1) Male or non pregnant female.
2) Age – 30 to 70 years
3) Patients on treatment and are not controlled
4) Written informed consent and patients willing to follow up.

Exclusion criteria:
- Pregnancy and lactation
- Patient with severe hypertension, malignant hypertension and secondary hypertension.
- Patient with a history of MI, unstable angina or arrythmias.
- Patient of CCF.
- Patient with stroke.
- Mentally challenged cases.
- Patient with significant, cardiac, hepatic, renal, cerebrovascular diseases, Diabetic mellitus and malignancy.
- Uncontrolled endocrine or metabolic diseases, hepatic failure.
- Impaired renal function.
- Any condition which is likely to hamper compliance of the patient during the study.

Study assessment:
Primary Parameter:
To evaluate and compare the change or reduction in systolic and diastolic blood pressure (BP) in sitting position from baseline (week 0) to the end point (WEEK 12) between two groups.

To evaluate and compare the change or reduction in Stress value between two groups.

Secondary Parameter:
To observe and compare change in lipid profiles between two groups

Over all global assessment of efficacy by the physician was done from second visit onwards and also patient was carried out at all the visit following grades.

- **Excellent** - Complete resolution of signs and symptoms
- **Good** - Moderate resolution of signs and symptoms (Moderate improvement)
- **Fair** – Small improvement in sign and symptom (Mild improvement)
- **Poor** – disease unchanged or deteriorated.

Physical Examination:

- A physical examinations were performed at the base line visit as follows- Temperature, Respiration rate, Pulse rate, CVS,CNS,RS,Skin,Musculoskeletal system,endocrine,ENT and eyes.
- Laboratory investigations was performed at baseline and end of treatment as faillows CBC,Urine,lipid profile.
- ECG was done to determine the changes before and after treatment in both the groups.

Study Treatment

1) Grop A – was treated by Rx of HTN with meditation
2) Grop A – was treated by only Rx of HTN

Study was performed in YMT Ayurvedic Medical College and Smt.K.G. Mittal college and Sanjivani Ayurvedic centre Mumbai.

**STATISTICAL ANALYSIS:**

- Qualitative (Text) data will be presented in form of frequency (count) and percentage.
- Quantitative (numerical) data will be presented in form of mean ± standard deviation and median. IQR (IQR= Interquartile Range (i.e. 75th Percentile-25th Percentile)).
- Analysis of Qualitative (Text) data between the 2 groups will be done using Chi-Square test with Continuity Correction for all 2 row X 2 columns tables. Where Chi-Square test is invalid due to expected count is less than 5 in more than 20% table cells, Fisher's Exact Test will be used.
- Analysis of Quantitative (numerical) data of ordinal type (scale, score etc.) between the 2 groups will be done using Mann-Whitney test. 
- Analysis of Quantitative (numerical) data of interval type between the 2 groups will be done using unpaired t-test if data passes Normality Test or Mann-Whitney test if data fails Normality Test.
- Analysis of Quantitative (numerical) data before and after intervention within each group will be done using Wilcoxon Signed Rank Test.
- Analysis of Quantitative (numerical) data before and after intervention within each group will be done using Paired t-test if data passes Normality Test or Wilcoxon Signed Rank Test if data fails Normality Test.
- Data will be represented graphically as deemed necessary.

**Results** - The study was conducted on 30 patients including both male and female practicing daily meditation for 12 weeks to observe effect of meditation in hypertension.
This showed an overall reduction of systolic and diastolic blood pressure. Further studies are still going on in our institute.

References:

3. Relaxation and biofeedback techniques in the management of hypertension. Patel C, Datey KK
INTRODUCTION:
There is availability of number of higher antibiotics, still there is challenge to treat middle ear infection and so its recurrence mostly occurs. Sushrut has already described the treatment of Karnastrava, Putikarna and Krimikarna.2

Today every persons lifestyle is changed with food habit, working hours, type of work & pollution etc., these factors are responsible for upper respiratory tract infections which leads to otitis media (Karnastrava)1. Sushrut has described the treatment for Karnastrava is guggule dhupan4. As the guggule is ‘ushna’ acts ‘vatshamak,’ due to ‘tikshna, ushna gun, kaph shakam’5. Guggule is also shothahar, Jantughna, Vranashodhan, vranaropan and vednasthapan5, it is used in kaph wat rog’. Dhup of guggule can easily reaches at affected area. This properties of guggule is useful in the management karnastrava.

So, here I present a case where a chronic otitis media (KARNASTRAVA) is treated with ‘guggule dhup.’

CASE REPORT:
A 40 years female patient of vatkaph prakruti presented with complaints of discharge from left ear (Karnastrava/ Puyastrava), itching (Karnakandu) fall smell (durgandha) and tinnitus (karnanad) since 6 to 7 days. Patient have history of taking treatment since one and above year but above symptoms occurs immediately. On examination puyastrava was gadha, prabhut with faull smell, on cleaning no otitis externa, tympanic membrane perforation, seen with conductive deafness. Mastoid x-ray and all routine blood investigation was normal. The pus culture report showed the presence of staphylococcus. The patient has no systemic disease. Patient general status is poor. Firstly the puyastra was cleaned with bud then the dhup is given by keeping the guggule on hot pan (tava) and it is covered with aluminium funnel. Mahishaksha guggule of groundnut sizes (8 to 10 grams) is advised to use 2-3times a day for 15 days. Before taking dhup the every time strava was cleaned with ear bud dhupan was given for 2 to 3 minutes only. Along with local treatment firstly tiltail massage given then nadi swed3 of dashmul bharad was given to face area for 5 to 6 minutes, orally shankha bhasma (250 mg.)6, and kapardik bhasma (250 gm.) given with go ghrit in 5 ml. dose for 2 times a day. Arogyavardhini tablet 250 mg. 3 times a day with lukewarm water for 7 days. After 7 days puyastra, itching gate reduced with minmal tinnitus. There was no strava, itching and tinnitus after one month follow up. Dry perforation was present.

DISCUSSION:
Guggule has laghu, ruksha, tikshna gun with ushna veerya and it is wat kaph shakam this property reduces the discharge. Guggule is shothahar, jantughna it reduces inflammation of middle ear cleft mucosa which helps to minimize the heaviness and itching in ear. Ghrita pan improves the patient geneal health by increasing the immunity as sushruta advised samanya chikitsa in karnarog. Use of nadi swed acts as soothing & reduces the heaviness of ear, it helps to drain the discharge by opening the estachian tube. The tikshna, ushna contains of arogyavardhini tablet stoppes the dhatu pak which reduces putistra. Shankh and kapardik bhasma is stravanashak, jantughna and stravashoshak. Vat shaman helps to treat tinnitus5.
Shaman of kapha reduces itching. Eustachian tube patiency improves Kasnabadhirya.

The Rasayan drugs and multivitamins are advised to patient. There were no Adverse event throughout the management of Karnastrara.

RESULT:
The guggule dhup is useful in the management of Karnastrara without any adverse effect. There was no recurrence for 2 month, general health get improve by supporting treatment.

CONCLUSION:
Karnastrara (otitis media) is disease which may lead to severe complications.

Ayurvedic line treatment gives useful result in the management of Karnastrara by improving general status. The mode of treatment was found to be cost effective, safe and ease to implement.

REFERENCES:

5. Dravaguna Vidnyan vol3 – pro P.V. Sharma, Chaukhamba Bhasati Aeodama
3. To Study The Efficacy Of Rasanjana - Madhu Anjana And Pratisarana In Klinnavartma (Squamous Blepharitis)

DR.Deepak P. Sawant., MS (shalakyatantra), Associate Professor and HOD. Dept of shalakyatantra, VPAMC, Sangli

ABSTRACT

Aims:
To Study the efficacy of Rasanjana - Madhu Anjana and Pratisarana in Klinnavartma(Squamous Blepharitis).

Objectives:
To study the efficacy of Rasanjana - Madhu Anjana and Pratisarana in Klinnavartma (Squamous Blepharitis).
To study Klinnavartma according to Ayurveda.
To study Squamous Blepharitis according to Modern Ophthalmalogy.
To find the initiation of the action modality.

Materials & Methods:
Study Design: Open randomised study design.
Place of Work: Patients from daily OPD and IPD of Shalakyatantra Department of our Ayurved Hospital.

Details of Study Subjects and Controls: Number of patients' selected - total 60 patients were selected having signs and symptoms of disease. Patients were divided randomly in the two groups with 30 patients in each group.

Drug Administration:
Group A: Experimental Group :
Treated with Rasanjana - Madhu Anjana and Pratisarana for 21days for 2 times daily.

Matra: Rasanjan 50-100 mg ; Madha- 2ml

Group B: Control Group:
Treated with Koshnajal dhawan for 21 days for 2 times daily.

Mode of Action of Drug:
The combinatinof Rasanjana - Madhu Anjana and Pratisarana is selected for trial mainly having Tikta,Kashaya rasa and Laghu, Rukshaguna and Ushna veerya and Katvipaka.
Rasanjana is Chakshushya, Lekhya, Shothhar, Kandughna and Kaphapittaghna. Madhu is having properties like Ropan, Lekhan, Yogvaahi, Tridoshshamak and Sukshmastrotogami.
All these properties of drug helps to normalies the Raktadhatu, Kaphghna that inturns helps in Kledharana, Vranaropana and Twakdoshhar.

Conlusions:-
In the light of above description and the data presented above, the following facts would be very clear.The combination of Rasanjana - Madhu Anjana and Pratisarana in Klinnavartma(Squamous Blepharitis) is highly effective and potent without any Clinically noticeable side effects.The drug has shown satisfying results in case of Klinnavartma(Squamous Blepharitis).
Chapter 1: Introduction

Research Question:
Can Ayurvedic medicines cure Sickle-Cell Disease? If it does, then to what extent and at what rate they cure the disease?

1.1 Introduction:

I was much struck with the fact that Sickle-Cell Disease and most of the genetic diseases are incurable. The knowledge I gained about base substitution mutation in DNA and the Human Genome Project, showed me light to the possibility of a cure to the disease. Stem Cell Therapy was the first thing that came into my mind, while thinking of a cure to SCD. Eventually I found that researches about using stem cell therapy for curing SCD were already being carried in various academic and research institutions across the globe. As a result, bone marrow transplant became a ray of hope for the sufferers of the disorder; but still, the scientists and doctors would assert the non-existence of a definite cure to the disease.

1.2 What is Sickle Cell Disease?

Sickle-Cell Disease (SCD), or sickle-cell anaemia (SCA) or drepanocytosis is one of the most life-threatening diseases ever discovered. The disease not only disturbs the life of the patients but also his family. As there has been no definite treatment or cure for the disease till date, the patients are very frequently admitted in hospitals and have to undergo unbearable pain. Some forms of Sickle-Cell Disease tell us that it is even more fatal than Cancer and AIDS. In spite of being a very deadly and widespread disorder in many parts of the country, Government of India has not taken any serious steps regarding eliminating or researching on the treatment and cure of SCD. This collection of clinical findings was unknown until the explanation of sickle cells was given by Chicago cardiologist and professor of medicine James B. Herrick. The disease was named “sickle-cell anaemia” by Vernon Mason in 1922.

Sickle cell disease has struck millions of people across the globe and is predominantly widespread among those whose ancestors are from sub-Saharan Africa, Spanish-speaking regions in the Western Hemisphere (South America, the Caribbean, and Central America), Saudi Arabia, India, and Mediterranean countries such as Turkey, Greece, and Italy. It affects an estimated 70,000 to 100,000 Americans. The disease occurs in about 1 out of every 500 African Americans births, and about 1 out of every 36,000 Hispanic Americans births. The trait of SCD occurs in about 1 in 12 African Americans. Sickle cell disease is a major public health concern. From 1989 through 1993, there was an average of 75,000 hospitalizations due to sickle cell disease in the United States, costing approximately $475 million. During 2005, medical expenditures, in the US, for children with sickle cell disease averaged $11,702 for children with Medicaid coverage and $14,772 for children with employer-sponsored insurance. Sickle cell-related death among African-American children less than 4 years of age fell by 42% during 1999 to 2002. This coincides with the introduction of a vaccine that protected against invasive pneumococcal disease in 2000. The disease can be found in people living in parts of the world where malaria is or was common. It is believed that people who carry the sickle cell trait are less likely to catch malaria.

Sickle cell anaemia is an inherited form of anaemia — a condition in which there aren't enough fit red blood cells to carry sufficient oxygen throughout the body. In normal
condition, the red blood cells have biconcave shape and are flexible. They can move easily through the blood vessels. Whereas, in sickle cell anaemia and other forms of SCD, the red blood cells become rigid, sticky and are shaped like sickles or crescent moons. These irregularly shaped cells can get stuck in small blood vessels, which can slow or block blood flow and oxygen to parts of the body. There's no cure for most people with sickle cell anaemia. However, treatments can relieve pain and help prevent further problems associated with sickle cell anaemia.³

Theoretical Basis:

Sickle cell anaemia is a genetic disorder which is inherited from parents to the offspring. It has been known to be caused by mutations in the DNA of the RBCs. Mutation is any event that changes genetic structure; any alteration in the inherited nucleic acid sequence of the genotype of an organism.⁴

A mutation can just involve one nucleotide or it can even have an effect on a huge segment of the gene. It is often thought that a mutation which involves a smaller number of nitrogenous bases in the DNA will be less significant than one where a larger number of bases are changed. In the gene that controls sickle-cell anaemia a alteration of just one base lead to a protein with one amino acid distorted and the resulting disease. Haemoglobin is made of four polypeptide chains: two alpha chains and two beta chains. When an A to T base substitution occurs in the region of the gene coding for the 6th amino acid in the beta chain, the codon GAG (glutamic acid) becomes GTG (valine).

The resulting polypeptide is different and the haemoglobin formed is commonly known as HbS; the normal’ haemoglobin is known as HbA. The result of this is a slightly different structure, by one amino acid of the haemoglobin molecule which makes it crystallise at low oxygen levels (e.g. in the capillaries). The erythrocyte in which the haemoglobin can be found will then change from a biconcave shape into a sickle-cell shape (see Figure 404) and can block the small capillaries, and is less efficient at transporting oxygen. Even when the oxygen concentration increases again, the cells keep their sickle shape. The symptoms of sickle-cell anaemia are acute anaemia, which causes physical weakness. The lack of oxygen may be severe enough to cause damage to the heart and kidneys or even death (in homozygous individuals). The gene for sickle-cell anaemia is co-dominant with the “normal” allele although the latter is expressed more strongly in the heterozygous individual. Heterozygous individuals (carriers) have some HbS but more normal haemoglobin. They may suffer from mild anaemia. The selective advantage of being a carrier is found in malaria infested areas. Plasmodium (the protist causing malaria) cannot reproduce in erythrocytes with HbS. This means that individuals heterozygous for the sickle-cell trait have a reduced chance of contracting malaria. Natural selection has ensured that the sickle-cell trait is more common among people living in malaria-infested areas such as West Africa. As the African-American population largely originates from this area, the trait is found in frequencies higher than usual in this group. Carriers may not be aware of the fact that they possess the sickle-cell allele and are capable of passing it on to their children. If two carriers have a child, there is a 1 in 4 (25%) chance of the child having the disease.

Therefore, it is important that people who may be carriers, are tested to confirm the presence or absence of the sickle cell allele. If a female carrier is pregnant and the father is also a carrier, it is possible to test using amniocentesis or chorionic villi sampling (refer to Topic 4.2.6) to see if the child will have sickle-cell anemia. Should this be the case, then the parents may decide to discontinue the pregnancy. There are no easy answers to this problem. A great deal of research is being done

³ CDC
⁴ Wordweb
Symptoms:

Signs and symptoms of sickle cell anaemia usually show up after an infant is 4 months old and may include:

1. **Anaemia**: Sickle cells are fragile. They break apart easily and die, leaving you chronically short on red blood cells. Red blood cells usually live for about 120 days before they die and need to be replaced. However, sickle cells die after only 10 to 20 days. The result is a chronic shortage of red blood cells, known as anaemia. Without enough red blood cells in circulation, your body can’t get the oxygen it needs to feel energized. That’s why anaemia causes fatigue.

2. **Episodes of pain**: Periodic episodes of pain, called crises, are a major symptom of sickle cell anaemia. Pain develops when sickle-shaped red blood cells block blood flow through tiny blood vessels to your chest, abdomen and joints. Pain can also occur in your bones. The pain may vary in intensity and can last for a few hours to a few weeks. Some people experience only a few episodes of pain. Others experience a dozen or more crises a year. If a crisis is severe enough, you may need hospitalization so that pain medication can be injected into your veins (intravenously).

3. **Hand-foot syndrome**: Swollen hands and feet may be the first signs of sickle cell anaemia in babies. The swelling is caused by sickle-shaped red blood cells blocking blood flow out of their hands and feet.

4. **Jaundice**: Jaundice is a yellowing of the skin and eyes that occurs because of liver damage or dysfunction. Occasionally, people who have sickle cell anaemia have some degree of jaundice because the liver, which filters harmful substances from the blood, is overwhelmed by the rapid breakdown of red blood cells. In people with dark skin, jaundice is visible mostly as yellowing of the whites of the eyes.

5. **Frequent infections**: Sickle cells can damage your spleen, an organ that fights infection. This may make you more vulnerable to infections. Doctors commonly give infants and children with sickle cell anaemia
antibiotics to prevent potentially life-threatening infections, such as pneumonia.

6. **Delayed growth**: Red blood cells provide your body with the oxygen and nutrients you need for growth. A shortage of healthy red blood cells can slow growth in infants and children and delay puberty in teenagers.

7. **Vision problems**: Some people with sickle cell anaemia experience vision problems. Tiny blood vessels that supply your eyes may become plugged with sickle cells. This can damage the retina — the portion of the eye that processes visual images.6

**Ayurveda**:  
**Ayurveda** is the oldest surviving complete medical system in the world. Derived from its ancient Sanskrit roots - ‘ayus’ (life) and ‘ved’ (knowledge) – and offering a rich, comprehensive outlook to a healthy life, its origins go back nearly 5000 years. It was expounded and practiced by the same spiritual **rishis**, who laid the foundations of the **Vedic** civilisation in India, by organising the fundamentals of life into proper systems.  
**Ayurveda** offers a unique blend of science and philosophy that balances the physical, mental, emotional and spiritual components necessary for holistic health.

**General Observations about the treatment:**

It was observed that after about 1 year of this treatment the patients stopped having blood transfusion as their haemoglobin level was rising. The crisis of the patients has also reduced during the first year of the treatment drastically. The patients reported to be fully cured from the basic problems cause by SCD such as joint pain, fever and weakness.

**Chapter 2: Methodology**

2.1 Objectives of study:

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<tr>
<td>Pulmonary hypertension</td>
<td></td>
</tr>
<tr>
<td>Organ damage</td>
<td></td>
</tr>
<tr>
<td>Blindness</td>
<td></td>
</tr>
<tr>
<td>Skin ulcers</td>
<td></td>
</tr>
<tr>
<td>Gallstones</td>
<td></td>
</tr>
</tbody>
</table>

6 CDC
Questionnaire:
Q. 1 How long have you been undergoing ayurvedic treatment of Dr. Nandeshwar?
   a. Less than a year
   b. 1 year
   c. More than a year
Q2. Which of the following symptoms did you have before undergoing the treatment?
   a. Anaemia
   b. Pain/crisis
   c. Hand-foot syndrome
   d. Jaundice
Q3. How effectively have your symptoms (specified) subsidised?
   a. Completely
   b. Somewhat
   c. Almost completely
   d. Not at all

Final Experiment:
To verify why the symptoms subsided in SCD cases, an experiment was conducted. In the experiment I planned to use the blood samples of 10 different patients, which were collected by Doctor Ashay Nandeshwar collected of 10 patients at a regular interval of 2 months.

2.3 Variables:

<table>
<thead>
<tr>
<th>Dependent Variables (DV)</th>
<th>Independent Variables (IV)</th>
<th>Controlled Variables</th>
<th>Fixed Variables (Constants)</th>
<th>Uncontrolled Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total number of blood cells in the sample.</td>
<td>Amount of blood used to prepare each slide.</td>
<td>Number of blood cells in the sample over a period of time</td>
<td>Room temperature</td>
</tr>
<tr>
<td></td>
<td>Number of defected cells in the sample.</td>
<td></td>
<td></td>
<td>Humidity</td>
</tr>
<tr>
<td></td>
<td>Number of normal cells in the sample</td>
<td></td>
<td></td>
<td>Slight Impurities</td>
</tr>
</tbody>
</table>

Materials:
- Slides
- Droppers
- Leishman stain
- Distilled water
- Syringe with needles
- Cotton
- Spirit

Procedure 1: Preparing the blood smears
1. Distilled water was used to clean all the slides. The slides were then kept open to dry
2. 5 ml syringes were used to take out blood from the patients. In adult patients, the blood was taken out from a vein in the arm; and in young children the blood was taken from finger tips.
3. About 0.5 ml of blood was taken out from each patient.
4. Each blood sample was then added into a test-tube (cleaned and dried).
5. Separate droppers were used to transfer 1 drop of blood from each sample from the test-tubes to the slides.
6. The slides were then covered with Leishman stain, and were then allowed to dry for about 30 minutes each.

**Procedure 2: Viewing the smears under a microscope and counting the cells**

1. The prepared slides were then viewed under an optical microscope.
2. A digital camera was used to capture the images from the eye-piece.
3. The digital images were then zoomed on a computer and then counted.

<table>
<thead>
<tr>
<th>At the start of treatment:</th>
<th>Total RBCs observed</th>
<th>No. of defected cells observed</th>
<th>No. of normal Cells</th>
<th>% of defected cells</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>129</td>
<td>74</td>
<td>55</td>
<td>57.36%</td>
</tr>
<tr>
<td>Two months of treatment:</td>
<td>131</td>
<td>61</td>
<td>70</td>
<td>46.56%</td>
</tr>
<tr>
<td>4 months of treatment:</td>
<td>93</td>
<td>43</td>
<td>50</td>
<td>46.23%</td>
</tr>
<tr>
<td>6 months of treatment:</td>
<td>109</td>
<td>24</td>
<td>85</td>
<td>22.018%</td>
</tr>
<tr>
<td>Treatment Period</td>
<td>Total RBCs observed</td>
<td>No. of defected cells observed</td>
<td>No. of normal Cells</td>
<td>% of defected cells</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
<td>-------------------------------</td>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>8 months</td>
<td>108</td>
<td>21</td>
<td>87</td>
<td>19.44%</td>
</tr>
<tr>
<td>10 months</td>
<td>128</td>
<td>15</td>
<td>113</td>
<td>11.71%</td>
</tr>
<tr>
<td>12 months</td>
<td>110</td>
<td>11</td>
<td>99</td>
<td>10%</td>
</tr>
<tr>
<td>14 months</td>
<td>110</td>
<td>11</td>
<td>99</td>
<td>10%</td>
</tr>
<tr>
<td>16 months</td>
<td>101</td>
<td>5</td>
<td>96</td>
<td>4.95%</td>
</tr>
<tr>
<td>18 months</td>
<td>87</td>
<td>4</td>
<td>83</td>
<td>4.59%</td>
</tr>
</tbody>
</table>
20 months of treatment:

<table>
<thead>
<tr>
<th></th>
<th>Total RBCs observed</th>
<th>No. of defected cells observed</th>
<th>No. of normal Cells</th>
<th>% of defected cells</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>133</td>
<td>2</td>
<td>131</td>
<td>1.50%</td>
</tr>
</tbody>
</table>

22 months of treatment:

|                | 134                 | 1                             | 133                 | 0.74%               |

Statistical Analysis:

Measuring the effect of the medicine

![Graph measuring the effect of the medicine]
No apparent trend can be observed in the above statistics.

**Limitations and Scope for Improvement:**

**Improvements in the procedure:**

1. Before using them the slides should be washed with an acid, then rinsed in distilled water and then air-dried. This is done to make the slides free of alkaline substances if the cells are going to adhere.

2. The slide should be made as soon as possible after the cells have been taken from the patient and collected in ethylenediaminetetraacetic acid (EDTA). If you wait too long, the cells will lose their shape and the true shape is extremely important for diagnosing. This was a very big limitation in the experiment.

3. The blood cells were not properly spread out in the above slides. This is was a very significant limitation of the experiment. Due to the over-lapping of the blood cells some there definitely must have been an error in counting. To overcome this limitation a thin capillary tube should have been used to take out the blood sample on to the slide.

4. The Science Advisory Board has laid down specific protocols for preparing blood smears. According to the protocol the procedure should include the use of Smear Fix© on the wet preparation or the slide gently into a coplin jar of acetic alcohol (3% acetic acid in 95% methanol). These two solutions are fixative which helps to keep the blood cells stable.

**Complications**

Sickle cell anaemia can lead to a host of complications, including:

- **Stroke.** A stroke can occur if sickle cells block blood flow to an area of your brain. Stroke is one of the most serious complications of sickle cell anemia. Signs of stroke include seizures, weakness or numbness of your arms and legs, sudden speech difficulties, and loss of consciousness. If your baby or child has any of these signs and symptoms, seek medical treatment immediately. A stroke can be fatal.

- **Acute chest syndrome.** This life-threatening complication of sickle cell anaemia causes chest pain, fever and difficulty breathing. Acute chest syndrome can be caused by a lung infection or by sickle cells blocking blood vessels in your lungs. It requires emergency medical treatment with antibiotics, blood transfusions and drugs that open up airways in your lungs. Recurrent attacks can damage your lungs.

- **Pulmonary hypertension.** About one-third of people with sickle cell anemia will eventually develop high blood pressure in their lungs (pulmonary hypertension). Shortness of breath and difficulty breathing are common symptoms of this condition, which can ultimately lead to heart failure.

- **Organ damage.** Sickle cells can block blood flow through blood vessels, immediately depriving an organ of blood and oxygen. In sickle cell anemia, blood is also chronically low on oxygen. Chronic deprivation of oxygen-rich blood can damage nerves and organs in your body, including your kidneys, liver and spleen. Organ damage can be fatal.

- **Blindness.** Tiny blood vessels that supply your eyes can get blocked by sickle cells. Over time, this can damage the retina — the portion of the eye that processes visual images — and lead to blindness.

- **Skin ulcers.** Sickle cell anaemia can cause open sores, called ulcers, on your legs.

- **Gallstones.** The breakdown of red blood cells produces a substance called bilirubin. Bilirubin is responsible for yellowing of the skin and eyes (jaundice) in people with sickle cell anemia. A high level of bilirubin in your body can also lead to gallstones.

- **Priapism.** Men with sickle cell anaemia may experience painful erections, a condition called priapism. As occurs in other parts of the body, sickle cells can block the blood vessels in the penis. This can damage the penis and eventually lead to impotence.

**Tests and diagnosis**
A blood test can check for hemoglobin S — the defective form of hemoglobin that underlies sickle cell anemia. In the United States, this blood test is part of routine newborn screening done at the hospital. But older children and adults can be tested too.

In adults, a blood sample is drawn from a vein in the arm. In young children and babies, the blood sample is usually collected from a finger or heel. The sample is then sent to a laboratory, where it's screened for hemoglobin S.

If the screening test is negative, there is no sickle cell gene present. If the screening test is positive, further tests will be done to determine whether one or two sickle cell genes are present. People who have one gene — sickle cell trait — have a fairly small percentage of hemoglobin S. People with two genes — sickle cell disease — have a much larger percentage of the defective hemoglobin.

**Treatments and drugs**

Bone marrow transplant offers the only potential cure for sickle cell anemia. But, finding a donor is difficult and the procedure has serious risks associated with it, including death.

As a result, treatment for sickle cell anemia is usually aimed at avoiding crises, relieving symptoms and preventing complications. If you have sickle cell anemia, you'll need to make regular visits to your doctor to check your red blood cell count and monitor your health. Treatments may include medications to reduce pain and prevent complications, blood transfusions and supplemental oxygen, as well as bone marrow transplant.

**Medications**

Medications used to treat sickle cell anemia include:

* Antibiotics. Children with sickle cell anemia usually begin taking the antibiotic penicillin when they're about 2 months of age and continue taking it until they're 5 years old. Doing so helps prevent infections, such as pneumonia, which can be life-threatening to an infant or child with sickle cell anemia. Antibiotics may also help adults with sickle cell anemia fight certain infections.

* Pain-relieving medications. To relieve pain during a sickle crisis, your doctor may advise over-the-counter pain relievers and application of heat to the affected area. You may also need stronger prescription pain medication.

* Hydroxyurea (Droxia, Hydrea). This prescription drug, normally used to treat cancer, may be helpful for adults with severe disease. When taken daily, it reduces the frequency of painful crises and may reduce the need for blood transfusions. It seems to work by stimulating production of fetal hemoglobin — a type of hemoglobin found in newborns that helps prevent the formation of sickle cells. There is some concern about the possibility that long-term use of this drug may cause tumors or leukemia in certain people. Your doctor can help you determine if this drug may be beneficial for you.

Assessing stroke risk

Using a special ultrasound machine (transcranial), doctors can learn which children have a higher risk of stroke. This test can be used on children as young as 2, and those who are found to have a high risk of stroke are then treated with regular blood transfusions.

**Blood transfusions**

In a red blood cell transfusion, red blood cells are removed from a supply of donated blood. These donated cells are then given intravenously to a person with sickle cell anemia.

Blood transfusions increase the number of normal red blood cells in circulation, helping to relieve anemia. In children with sickle cell anemia at high risk of stroke, regular blood transfusions can decrease their risk of stroke.

Blood transfusions carry some risk. Blood contains iron. Regular blood transfusions cause an excess amount of iron to build up in your body. Because excess iron can damage your heart, liver and other organs, people who undergo regular transfusions must often receive
treatment to reduce iron levels. Deferasirox (Exjade) is an oral medication that can reduce excess iron levels. It can be used in people older than 2.

Supplemental oxygen
Breathing supplemental oxygen through a breathing mask adds oxygen to your blood and helps you breathe easier. It may be helpful if you have acute chest syndrome or a sickle cell crisis.

Bone marrow transplant
This procedure replaces bone marrow affected by sickle cell anemia with healthy bone marrow from a donor who doesn't have the disease. It can be a cure, but the procedure is risky, and it's difficult to find suitable donors. Researchers are still studying bone marrow transplants for people with sickle cell anemia. Currently, the procedure is recommended only for people who have significant symptoms and problems from sickle cell anemia.

Bone marrow transplant requires a lengthy hospital stay. After the transplant, you'll need drugs to help prevent rejection of the donated marrow.

Treating complications
Doctors treat most complications of sickle cell anemia as they occur. Treatment may include antibiotics, vitamins, blood transfusions, pain-relieving medicines, other medications and possibly surgery, such as to correct vision problems or to remove a damaged spleen.

Experimental treatments
Scientists continue to gain new insights into the symptoms and causes of sickle cell anemia. Some possible new treatments being studied include:

* Gene therapy. Because sickle cell anemia is caused by a defective gene, researchers are exploring whether inserting a normal gene into the bone marrow of people with sickle cell anemia will result in the production of normal hemoglobin. Scientists are also exploring the possibility of turning off the defective gene while reactivating another gene responsible for the production of fetal hemoglobin—a type of hemoglobin found in newborns that prevents sickle cells from forming.

* Butyric acid. Normally used as a food additive, butyric acid may increase the amount of fetal hemoglobin in the blood.

* Clotrimazole. This over-the-counter antifungal medication helps prevent a loss of water from red blood cells, which may reduce the number of sickle cells that form.

* Nitric oxide. Sickle cell anemia causes low levels of nitric oxide, a gas that helps keep blood vessels open and reduces the stickiness of red blood cells. Treatment with nitric oxide may prevent sickle cells from clumping together.

* Nicosan. This is an herbal treatment in early trials in the U.S. Nicosan has been used to prevent sickle crises in Nigeria.
5. A clinical study of basti (kal-basti) in the management of katigata vatavyadhi w.r.t. Lumbar Spondylosis.

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ABSTRACT

Several studies have suggested an important role of Basti treatment in the asthimajjagata Vatavyadhi like katigata vata. Even the use of Panchatiktaghritakshir basti in same has been studied & has proved best. But the use of Kal Basti (16 bastis) & that Anuvasana Basti of which with Panchatiktaghrira instead of oil has not been studied earlier. This study was aimed to find the combined effect of basti & Panchatiktaghrira in Asthimajjagata Vatavyadhi like katigatavata (degenerative changes at lumbosacral region) together to give best results.

In this study, 30 patients in the age group between 18 to 60 years in R.A. Podar College & hospital were selected randomly. Patients mainly complaining of Katishul, Katigraha etc. & showing osteophytes in their X-ray L.S. Spine s/o degenerative changes has been selected. The patients treated on IPD level who were given basti for the period of 16 days.

Students paired T test was used for interpretation of results. Positive significant symptomatic relief in patients was observed but there was no significant positive change in radiological findings i.e. osteophytes in X-ray L.S. Spine after treatment.

Our study concluded that the basti treatment is significantly effective treatment in the management of katigatavatavyadhi giving symptomatic relief & the use of panchatiktaghrira in anuvasana basti has proved more beneficial in asthimajjashrita vatavyadhi.

Key words: Kal basti - 16 basti - Katigata vatavyadhi-lumbar spondylosis

INTRODUCTION

Ageing is ongoing process along with degeneration in body systems. But today’s fast food and altered life style is bringing the process of degeneration too early for the age. The incidence of degenerative changes in youngsters is alarming. Diseases related to musculo-skeletal system has high prevalence rate. The faulty dietary habits, extremes of sedentary life style or physical activity, wrong sitting posture, continuous sitting work in software & I.T. professionals are making the system prone to degeneration. It is resulting in development of degenerative diseases especially of vertebral column, most common being arthritis, spondylosis, PID, low back pain etc. Ayurveda recognises these disorders caused by Vata due to impairment of Asthi and Majjadhatu.

“Asthyashrayanam vyadhinam panchakarmani bhashjham Bastayah kshirsarpishi tikakophitani cha”1

Panchakarma treatment is speciality of Ayurveda that provides rational solution for such diseases of which Basti is generally advocated in treatment of Vatavyadhis. Use of Pancha Tikta Ghrita in the basti Basti treatment is one of such classical combination of drugs that is useful in degenerative diseases of vertebral column described by ashtanghirdaykars. In asthi majjagata vatavyadhis there are two main events creating samprapti i.e. asthi dhatukshaya & vataparakopa. And according to our samhitas, vatadosha & Asthidhatu have Ashrayashrayi sambandh in which the the dravyas causing kshaya of vatadosha are ultimately responsible for asthi dhatu vriddhi & vice versa. Panchatikta ghrita (guggulyukta)
is having snigdha gunatmaka ghrita playing an important role in vatashamana & tiktarasatmaka dravyas having kharatva & shoshan properties similar to Asthidhatu,resulting in Asthidhatu vridhdi by samanen samanasya vridhdi nyaya.Guggulu itself is the best vatashamak dravya.So one such study on the effect of kal-Basti using panchatikta ghrita for anuvasana & dashmul kwath for niruha, in degenerative diseases of vertebral column has been done & presented along with results in subjective and objective parameters.

“Tatrasthani sthito vayuh”2

“Yadekasya tadanyasya vardhan kshapanaushadham Asthi marutayah naivam prayo vrdhirthi tarpanat”3

Basti upakram is mentioned as an important treatment for all vatvikaras.Vata is the motivating force in the body responsible for spreading other doshas (pitta & kafa) in all tracts in the body.so ultimately in almost all diseases vata dosha is responsible. And basti is the main treatment to control vata. So basti has been described as fifty % treatment(ardhi chikitsa) by Charakacharya. And in some sanhitas it is said to be a complete chikitsa for all vatayadhis.

Katigata vatavyadhi is a vata disorder occurring at kati sandhi(i.e. lumbar intervertebral joints &the asthis related with them i.e. lumbar vertebrae). Among many causes of katishool,one is generative changes of lumbar vertebrae,i.e.lumbar spondylosis, osteoporotic changes of spine etc.). charakacharya has mentioned to give bastis of kshir & ghrita medicated with tikta-rasatmak dravyas in asthigata vyadhish and even ashtang hriday also has same reference in sutrasthan.

“Asthisankshayat ,Jatan kshirghritae tiktasanyutae bastibhistatha”4

Pancha tikta ghrita is mentioned in vata vyadhi chikitsa ,specially for asthi-majjagata vata &sandhigata vata by Ashtang hridaykar With this reference in kala basti ,pancha tikta ghrita was used for anuvasana basti &dashmul kwath for niruha basti in treatment.

Material & Methods

Type of study - A clinical open study.
The clinical study was conducted at R.A.Podar college & hospital, worli,Mumbai on IPD level & 30 patients having chief complain of katishul(low back pain),katigraha and showing vertebral degenerative changes (osteophytes) in their X-ray lumbosacral region were included with a written consent Diagnosis was made on clinical symptoms & radiological findings Patients having symptoms like katishul(low back pain),katigraha (stiffness in the lumbar region ),lumbar pain increased on movements i.e. forward & backward bending,tingling & numbness in one or both lower extremities& showing generative changes (osteophytes on lumbar vertebral bodies) s/o lumbar sponylosis in their X-ray of lumbo-sacral region were selected.Randomisation of patients from all socio-economic class in the age group between 18 to 60 years from hospital OPD was done.Patients having low back pain but following diseases during selection were excluded for research work.

Exclusion criteria

1. Patient with prolapsed intervertebral disc.
2. Patients with spinal canal stenosis,lumbar spondylo-lysthesys, ankylosing spondylitis,Pott’s spine ,curvature abnormalities of spine.
3. Sciatica patients with SLRT positive
4  Female patients  with pelvic inflammatory diseases (PID) ,having gynaecological symptoms alongwith low back pain.
5  Patients with severe systemic illness e.g. Hypertension,D.M.,Tuberculosis,cancer etc.
6   Patients having rheumatoid A.,rheumatic A., Gout.

Investigations
All routine investigations ( CBC,ESR, BSL-random,Urine-R&M, CXR-PA View)were done during patient selection.
Radiological study i.e. X-ray Lumbosacral region – AP/Lat view was done before & after the treatment.

Other tests- RA, ASO, S.uric acid were done to rule out the rheumatoid, rheumatic arthritis & gout to exclude the patients with these conditions.

**Method of administration of the drug**

Treatment used: Patients were given Kal-basti for 16 days (Ref-Cha.siddhisthan 1/47,48-chakrapani tika) Sequence of bastis was as follows- first one in Anuvasana, then alternately 6 Niruha & 6 Anuvasana, & finally 3 Anuvasana.

**Drug used**

For Anuvasana basti – Panchatikta ghrita was used in 60 ml. quantity which was prepared acc. to reference of ashtanga Hriday - vatavyadhichikitsa 21/58,59,60) , in the rashastra department of R.A.Podar college

For niruha basti - Medicated dashmul decoction in quantity of 500 ml. was used.

Anuvasana basti-Panchatikta ghrita (guggulyukta)-Reference

“Nimbamritavrishpatol nidigdhikanam,bhagan prithak dashpalanvipached hatepam,ashtansheshhitrasen punascha ten prasthamghritasya vipached pichhubbag kalkaeh,Patha vidang surdaru gajopkulya ,dvikshamgar nisha mishi chavya kusthaih,tejovati marich vatsak dipakagni ,rohinyushkar vacha kanamulyuktaih,Manjishtha ativisha visha yavanya,sashuddha guggul palairapi panchasankhaih,Tat sevitam vidhamati prabalam samiram „Sandhyasthi majjagatamapi atha kustham idruk”5

Niruha basti contents

Medicated decoction prepared by mixing the following ingredients in the same sequence as mentioned by Charakacharya.

“Madhusnehen kalkadhya kashayavapatah kramat (Ch.Sam.Si.3/30)”6

Honey - 50 ml, Saindhav lavan -3 gms,

Til oil - 50 ml,

Kalka (dashmul & madanphal) - 5 gms & medicated decoction of dashmul -400ml were mixed together to prepare niruha basti.

(Dashmul dravyas- Bilva, Aignimanta, Shyonak, Kashmarya, Patli, S haliparni, Prishniparni, Brihati, Kantkari, Vardhana nanak)7

**Basti kal**

Anuvasana was given in morning, immediately after having food & Niruha was also given in morning, after digestion of early night dinner & after mala-mutrotsarga as per indication.

“Na tu bhuktavate deyam asthapanamiti stithih”

“Bhojayitva yatha shastram krit chankramanam tatah visarjya cha shakrinmutram yojayet sneh bastina”8

**Follow up**

Daily examination of admitted patients to record disease symptoms & to note the basti pratyagama kal, during treatment was done for 16 days. After discharge, follow ups after every 15 days for one month were taken to observe the symptoms.

**Clinical parameters for assessment of results**

**Subjective criteria**

Katishula(L.B.P.), Katigraha, Low back pain during forward & backward bending Tingling & numbness in lower extremities Adhman ,Malbaddhata were the subjective parameters

**Objective criteria**

osteoophytes s/o degenerative changes of spine in the X-ray L.S. spine was objective
parameter. Gradation of each symptom was done as mild, moderate & severe to know the level of severity of disease. Statistical analysis was done on the basis of these parameters.

**Criteria of relief in %age**

With follow ups, study progress was observed & analysed to assess the benefit & improvement of condition as:

- Uttam upashaya - above 75%,
- Madhyam upashaya - 50 to <75%,
- Heena upashaya - 25 to <50%,
- Anupashaya - <25%

By applying students paired 't' test the analysis was done & the result found statistically significant.

**Results**

The mean age of study population was 13.33% in 21-30 age group, 33.33% in 31-40 age group, 33.33% in 41-50 age group & 20% in 51-60 age group. Positive significant relief in patients symptoms was as follows:

- 66.66% in katishul (p<0.001),
- 83.33% in katigraha (p<0.001),
- 77.27% in back pain during forward bending (p<0.001),
- 74.07% in back pain during backward bending (p<0.001),
- Tingling, numbness in lower extremities (p<0.001).

Out of 30 patients, 18 (60%) were females & 12 (40%) were males. The patients having complain since 1 year were 11 (36.66%), 2-5 years were 8 (26.66%) & more than 5 years were 3 (10%).

There was no significant correlation between the symptomatic relief & the changes in osteophytes in radiological examination.

**Discussion**

It can be concluded that the basti treatment is an exclusively effective treatment in the management of katigata vatavyadhi giving symptomatic relief. Considering the ashrayashrayeri sambandh of vatadosha & Asthidhatu as described in Ashtang samhita, panchatikta ghrita (guggul yukta) was selected as sneha dravya for Anuvasana basti. Tikta rasatmak dravyas, having shoshan & kharatva property, must having a good role in asthi vardhan karma because of the same property (kharatva) of asthidhatu. Ghrita being snigdha, did good job in relieving viciated vatadosha. It can be concluded that, Panchatikta ghrita having combination of tikta rasa (kharatva property) & ghrita (snigdha property) has an excellent role in asthigata vata vyadhi by asthiposhan and vatashaman, because there is not a dravya having both snigdha guna & tikta rasa.

**Acknowledgement**

Author acknowledge all the staff of kayachikitsa IPD & Panchakarma Department with special thanks to rashastra department for kind co-operation in medicine preparation.

**References**


13. Sushrut samhita chikitsasthana, Adhyaya no.37, shloka no. 59.

INTRODUCTION

Eye is considered to be the most important and noblest sense organ of human body.

In today’s era of 21st century, the full computerization of a country is necessary for the progress.

Like “Stone Age” today era can be defined as “Computer Age”.

It has seems that the work at computer is very intensive & most tiring therefore countries like Germany has included computer operational work in the list of the 40 most harmful trades for the health & restricted work at the computer should not exceed 50% of the working time.

Other developing countries are also following the suit. In the developing countries like India where the remuneration for the work are far from satisfactory & the young generation is aspiring for more material gains which necessitate them to work over time or have part time jobs in addition to their legitimate work.

This situation adds up to the works with the computer which badly affects their health.

Eye anatomy

Long-term use of computer monitor exposes the people for bright light which is not complacent with human eye. Hence such long term & repetitive exposure can damages eyes.

This damage is called as Computer Vision Syndrome in modern terminology. These ophthalmic health problems have been extensively investigated by American optometric association of 32 thousand ophthalmologists and opticians which concluded that working at the computer is unnatural for human eyesight & 70-75% of all users who work with the computers have problems with the eyesight. Lot of complaints

Which are visual display terminals?
received from the computer operators about sharp pain in the eyes, blurring of vision and problems about convergence as constant gazing at the monitor leaves hardly any scope for blinking causing stress on eye.

While reading a text from a paper the human eye takes the reflected image on which the light falls, where as reading the text on the computer screen one has to look at the bright source of light. While operating computer, one has to do both things simultaneously. This results into stress on eyes, as the eye has to adjust with light from paper & bright light of monitor simultaneously for thousand times a day. This has a negative influence on the eyesight. In addition to this brightness of illuminated monitor the light emitted by the monitor consists of X-rays, ultra-violet rays and infra-red rays along with the wide range of electromagnetic waves of different frequencies.

In the presence of several computers in a small room, ion quantity may increase. Superfluous quantity of positive ions is considered unhealthy for human beings, as these ions affect the circulation of blood & have effect on practically every organ in the body especially vital organs like brain, heart, eyes, kidneys & gonads.

WHAT IS COMPUTER VISION SYNDROME?

The American Optometric Association defines COMPUTER VISION syndrome is caused by extensive use of computers which reduces the blinking rate of a person and due to this water flow across the eyes is reduced drastically and leads to dryness. People in the age group of 18 to 30 years are at the risk of being affected by this syndrome if they spend lot of time on computer.

Computer Vision Syndrome (CVS) is the complex of eye and vision problems related to near work which are experienced during or related to computer use. CVS is characterized by visual symptoms which result from interaction with a computer display or its environment. In most cases, symptoms occur because the visual demands of the task exceed the visual abilities of the individual to comfortably perform the task. Vision problems occur frequently among video display terminal (VDT) workers & VDT associated vision problems are more significant than the musculoskeletal disorders

PATHOPHYSIOLOGY OF COMPUTER VISION SYNDROME

CVS is caused by decreased blinking reflex while working long hours focusing on computer screens. The normal blink rate in human eyes is 16–20 per minute. Studies have shown that the blink rate decreases to as low as 6–8 blinks/minute for persons working on the computer screen.

The Effects of VDT

There is a difference in visual demand when one is viewing the display on the computer screen compare to reading a printed text. An image which is produced on the screen is made up of thousands of tiny spots or pixels which collectively form the image. The margin of the image or a word is usually not sharp and this is worsening if the image or word is formed by minimal pixels, or what is known as low resolution. As the resolution goes down the image become poor in quality and the visual demand of a reader has to be increased in order to appreciate well the wording or image. The contrast (intensity of the light) of the word to the background, the glare of the computer screen and the reflection from the glass screen are all important factors determining the amount of visual demand one must put in order to perceive the image well.

The complex of eye and vision problems related to near work experienced during computer use has been termed "computer vision syndrome".

Eye and Vision Related Complaints

Studies have found that the majority of VDT workers experience some eye or vision symptoms. However, it is unclear whether these problems occur to a greater extent in VDT workers than in workers in other highly visually demanding occupations
Work that is visually and physically fatiguing may result in lowered productivity, increased error rate and reduced job satisfaction. Therefore, steps should be taken to reduce the potential for development of stress and related ocular and physical discomfort in the workplace.

Visual Demands of VDT Work

Viewing a video display terminal screen is different than viewing a typewritten or printed page. Often the letters on a VDT screen are not as precise or sharply defined, the level of contrast of the letters to the background is reduced and the presence of glare and reflections on the screen may make viewing more difficult. Viewing distances and angles used for VDT work are also often different from those commonly used for other reading or writing tasks.

Some VDT workers may experience problems with eye focusing or eye coordination that cannot be adequately corrected with eyeglasses or contact lenses. A preventive approach to reducing visual stress from VDT work incorporates the use of rest or alternate task breaks throughout the workday. Many VDT tasks are repetitive and can become stressful both mentally and physically after an extended period of continuous work.

Who is at risk for CVS

Tears

Tears are the liquid product of which clean and lubricate the eyes.

Physiology:

In humans, the tear film coating the eye, known as the pre corneal film has 3 distinct layers.

Drainage of tear film

- The lacrimal glands secrete lacrimal fluid i.e. tear
- When the eyes blink, the lacrimal fluid is spread across the surface of the eye.
Other causes

- Vitamin – A deficiency (Xerophthalmia), chemical burns
- Constant staring at a particular object such as T.V., Computer etc.
- Environment – dry, dusty, windy climate.
- Medication – antihistamines, birth control pills.
- Infection – systemic diseases such as lupus, rheumatoid arthritis
- Long-term use of contact lenses
- Hormonal changes

Signs & Symptoms Of Computer Vision Syndrome

- **Signs**
  - Presence of excessive debris & mucus strands in the tear film.
  - Reduced or absence of marginal tear strip.
  - Lusterless ocular surface - xerosis.
  - Lid – Dry & Rough touch.

- **Symptoms**
  - Itching
  - Burning sensation.
  - Blurred vision.
  - Dryness of eyes.
  - Redness of eyes.
  - Pricking Pain.
  - Foreign body Sensation.

- Difficulty in opening & closing the lids.

Diagnosis of dry eye

We need to consider 3 important parameters that are:

- Detailed history taking
- Clinical examination
- Clinical tests

Many questionnaires have been devised by various authors of facilitate relevant history taking in the patients. Schien et al. (1997) prepared a 7-point questionnaire that asks:

- Feeling dry?
- Any redness?
- Any burning sensation?
- Any gritty-sandy sensation?
- Much crusting on eye lashes?
- Eye get stuck in the morning?
- Constant ‘awareness’ about the eyes?

**Detailed history taking**

- Patient Name
- Age
- Sex
- Occupation
- Working Place
- Working time
- Duration
- Working place whether AC or Fan air flow

**Clinical examination** Slit lamp examination

**Clinical tests**

- Schirmers test and TFBUT
- ST strips and Fluorescien strips

**Treatment of Dry Eye**

At present there is no permanent cure, but there are some options available to relieve symptoms.

- Preservations of existing tears.
- Reduction of room temperature
- Humidifiers – e.g. swimmer’s goggles.
- Punctal occlusion – by solid gelatin rods, silicone plugs, or heat-cautry.

**Tear substitutes:**

- Lack of tears in patients with dry eye is compensated with the use of artificial tears or rewetters.
Retention time, safety and wear-quality of these agents are important clinical considerations.

Essentially, artificial tears are available as drops, gel or ointments.

**Drops**

- Hypromellose 0.3%
- Polyvinyl alcohol 1.4%
- Sodium hyaluronate
- Sodium chloride
- Povidone

**Gels & Ointments**

- Viscotears or Gel tears are preferable to drops because they are instilled less frequently.

**Ointments**

- Petroleum mineral oil is used at bedtime.

Viscotears or Gel tears are preferable to drops because they are instilled less frequently.

**Eye exercise**

AIM:-

- Rest/relaxation of the mind
- Rest/relaxation of the eyes

Rest always improves vision

Effort always lowers it.

Which are they?

1. Sunning
2. Eye wash
3. Palming
4. Swinging
5. Candle exercise
6. Ball exercise
7. Vapour procedure
8. Cold pad

**Principle**

1. Relaxation
2. Stimulation
3. Elimination

**Yoga & Meditation**

**Treatment According to Ayurveda**

**a) Local Treatment:**

- Tarpan – Jeevaniya Ghrita, Madhuksiddha Ghrita,Trifala Ghrita,Patoladi Ghrita.
- Anjan – Snehanjan etc.

**b) Systemic:**

- Snehan – Panchatikta, Jeevaniya Ghrita, Madhuksiddha Ghrita.
- Swedan – Steam bath.
- Ghritapan – Jeevaniya Ghrita, Madhuksiddha Ghrita.

**PREVENTION OF COMPUTER VISION SYNDROME**

The most important approach in the management of computer vision syndrome is eliminating the causative factor leading to the symptoms.

**Environmental factor**

- Poor lighting & Imbalanced of light between the computer screen and the surrounding.

**Computer factor**

- Poor resolution
Poor contrast
Glare of the display

Personal factors (Ergonomics)
- Improper seating posture & viewing distances & angle.
- Ocular & Medical diseases
- Ageing

Workplace Lighting
One of the most significant environmental factors affecting VDT work is lighting. Survey indicates that many VDT users report problems with general workplace lighting, glare and images reflected on the VDT screen. Many problems related to lighting may be caused by the introduction of VDTs into offices where the lighting was originally designed for traditional desk top work. The lighting is designed on the assumption that workers will perform tasks requiring their lines of sight to be depressed 20° to 40° from the horizontal. In many situations, however, VDTs are placed so that viewing occurs at or even above horizontal eye level.

The brightness of the screen and the surrounding room should be balanced.

Windows are a major source of glare in many offices. VDT operators should avoid facing towards un-shaded window since the difference in brightness between the VDT screen and the area behind it may be extremely stressful and uncomfortable. Operators should also not sit with their back to an un-shaded window since they will cast annoying shadows on their VDT screen.

VDT and Workstation Design and Placement
Proper ergonomic design and adjustment of the VDT and the work environment can increase productivity and worker comfort by decreasing the visual demands of the task.

Adjustment of the workstation to meet the individual needs of the operator is also important for overall performance and comfort. Inadequate viewing distances and angles can impose the necessity for awkward postures when viewing a VDT. The appropriate distance from the eyes to the computer screen is determined, in part, by the size of the letters on the screen and the adjustability of the workstation.

A viewing distance of 20 to 28 inches is generally recommended. The top of the screen should be below the horizontal eye level of the operator and tilted back slightly (30°-40°) away from the operator.

Some office environments have been implicated in causing eye irritation because of their dry atmosphere. The airtight environment also traps vapors and particulate matter from office furnishings. This can be a particular problem for contact lens wearers. These problems can be further exacerbated by decreased blinking caused by staring at a VDT.

The use of VDTs is associated with a decreased frequency of blinking and an increased rate of tear evaporation, each of which contributes to dry eyes. The exposed ocular surface area can be decreased by placing the VDT at a lower height.
Ergonomics

The term ergonomics is derived from the Greek word ergon [work] and nomos [natural laws]. Ergonomics is the science of human biology and engineering as Central Labor institute (CLI). It is applied to industries for improvement of safety, health and performance of their domain, considering physical, psychological, environmental and engineering factors. Improper position & prolonged use of mismatch workstation of visual display terminal (VDT) causes visual and muscular fatigue amongst operators. The International Ergonomics Association (IEA) defines ergonomics as the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. Ergonomics is employed to fulfill the two goals of health and productivity.
In this context, a small agronomical intervention is also been considered as effective therapy by providing ergonomically designed workstation along with traditional therapy.

**Do’s**

For screens: - Use anti reflector coating. **Screen should be tilted 45°**

**Environment of your work place**
- Adequate space
- Good light source
- Good Aeration
- AC, Fans air flow not directly on eyes

**Use goggles**

**Use glasses ARC Coating**

**Eye Washing techniques & Contact lenses Care**
- Twice a day

**Donts:**
- Avoid smoking, Tobacco chewing,
- Avoid Tea coffee, void eye rubbing

- With plain & clean tap water
- Contact lenses
- Clean it properly with lens cleaner
- Remove dust from it
- Discard the solution per day
- Lenses should be dipped in the solution

**Diet**
- Green leafy vegetables
- Complete diet
- Diet at proper time
- Avoid fast food
- Fruits
- Citrus food
7. THE GERM THEORY OF DISEASE - THE SEED AND THE SOIL

(A CRITICAL DISCUSSION WITH AYURVEDIC AND MODERN CONCEPT)

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There seems to be a general idea that the germ theory of disease which plays so important a part in modern medicine is not known to Ayurveda, I propose to examine the question at a little length as great importance seems to be attached to it in certain scientific circle; my argument will be that it is not true to say that the germ theory of causation of certain diseases was not known to Ayurveda, and that what is true that it did not and does not, occupy in Ayurveda the all-important position which it does in modern medicine.

We have seen that, according to Ayurvedists, causation of disease is twofold; viz. extrinsic (Bahya) and intrinsic (Abhyantara), and that parasitic germ are mentioned among the extrinsic causes, under the subhead “Agantuj” along with traumas and poisons of all kinds. There are two ways in which Agantuj diseases manifest themselves in the body, viz. (1) independently (Swatantrena) and (2) by infection or contagion (Sankramanena). Leprosy, other Kusthas and infectious diseases generally are instances of diseases conveyed by contagion. Pathogenic organisms (Krimis) are broadly divided into two classes, viz. those which are visible to the naked eye and those which are not; thus, Sushruta, in the chapter entitled Krими-Roga-Pratishodha, speaks of twenty kinds of krimis, of which, the first thirteen kinds are mentioned as being visible to the naked eye, while keshada, Romada and Others are said to be not so visible (Keshadayastvardishyaste). Vagbhata is also clear as to the causation of Kushtha by invisible organism; his significant reference to them as living Anoos (Jantvo anavah) is unmistakable as also his statement that some of them are invisible because of their minuteness (Ashtanghirdaya – Nidanstan, chapter VII).

While there can be no doubt that the existence of microscopic organisms as also their definite causative relationship to certain diseases was distinctly recognized by Ayurvedists, yet, it is clear that they did not attribute to germs the all-important role, assigned to them by orthodox western scientists of today; they merely looked upon the germ as one among the many Agantuj causative factors, capable of producing disease, if the soil or the field (Kshetra) was suitable for the growth of germ-seed. It is when the bodily constitution was undermined by the non-observance of the Laws of health such as Ritucharya (hygienic rules for various seasons of the year), Dincharya (Higienic rules for daily conduct), Bramhacharya (Hygienic rules of celibacy or regulated sexual life) and so on, that the kshetra (or soil) become suitable for the growth of germ-seed, which were powerless to do any mischief in the case of those persons who led pure and healthy lives, because the kshetra (or soil) was unsuitable for the germination and growth of the seed. Looked at from this standpoint, germ-seed is merely one among the many external causative factors of disease, like trauma, poisons, nutritional abnormalities and so on. This fact is, in a way, recognized by Western Medicine also; for, we still speak of large group of diseases, like Deficiency diseases, Nutritional diseases, Tumours, Malformations, and so on whose causation is not attributed to germs at all, although some germ-enthusiasts are hard at work to find out causative germs for all diseases in general; it is because of the undue importance attached to germs, that is sometimes appears as though the germ theory was the whole of our Western theory of causation of diseases, while the fact is that it but one among the many theories known to
Western Medicine. Thus, lack of vitamins is held to give rise to a group of diseases like Rickets, Scurvy and Beri-Beri; abnormalities of internal secretions, to other diseases like Myxoedema, Addison’s disease, Acromegaly etc.; then again we have tumours, malformations etc., whose causation has not yet been satisfactorily known. Ayurveda prefers to have but one theory, viz., the Tridosha – Theory; as sub-heads of which it has not only the germ theory but also every other theory mentioned above. Hence, when people talk of the Tridosha –theory versus the germ theory, they are making the mistake of comparing the whole with a part; then again there seems to be such exaggerated views of “germ-theory” that it is worthwhile re-emphasizing the fact that, even in its own line, the present germ-theory is not the last word in medicine and that it is applicable to only one group of diseases. If one hundred people are exposed to the same bacterial infection or seed, it does not follow that all will contract the disease; in addition to the bacteria, you required a particular condition of the tissue – soil where the bacteria can take root and thrive. It seems as though the Tridosha – theory looks at the question more from the standpoint of the soil, while the germ-theory looks at it more from the standpoint of the seed.

“Keep out the seed – away with all germs and you are safe”. This is the slogan of the germ-enthusiast. “It seems impracticable to keep out the germ-seeds which are ubiquitous. Therefore keep the soil in such a condition that no seed can grow, even if it gets in there.” So urges the Ayurvedists. Moreover, can we definitely say that the Ayurvedists is wrong, even if he choose to assert that the bacteria are the result, rather than the cause of disease?

Sir James Goodheart, an honoured name in Western Medicine, was stated in early 20th Century, that “Pathology is still shifting, we have not yet reached finality, even bacteria are probably results and not causes.”

Thereafter a distinct tendency to get away from the present position of attaching exaggerated importance to the germ-seed and to take up instead more or less the Ayurvedic position of attending to the soil and keeping it in such a condition that the germ-seed cannot germinate or thrive therein. Thus new tendency is apparently gaining ground so fast while a decade ago it was confidently affirmed that if the ‘seed’ was present, the noxious plant could be counted on to grow; in other words that infection was the one essential preliminary cause to illness. This idea led to the active campaigns which were organized against various bacteria, the hope being that their abolition would result in the abolition of the disasters occasioned by them. Medicine has largely abandoned that hope, for it is now certain that the ‘soil’ as much as the ‘seed’ determines the outcome. There are in fact, disease proof individuals and other individuals whose susceptibility is much greater than normal. Susceptibility, too, can be won or lost. The minds of many workers are turning to this aspect of the subject, for it is already abundantly clear that control of human resistance offers a brighter future than direct attempts to eliminate disease. For example, it is easier, too, to supply children in winter with an adequate supply of butter or other animal fat than to sweep their nurseries clear of the germs of pneumonia or bronchitis. The butter in this case makes the ‘soil’ unsuitable for the ‘seed’. It will thus be seen that the Ayurvedic conception of germ-caused diseases, as of diseases generally, is essentially a sound one, even in the light of the most recent finding of Western Science.
8. PREVENTION OF HEART DISEASES BY AYURVEDA

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Abstract-
Heart disease is commonly known as Coronary Artery Disease (CAD). To treat CAD modern science uses medication as well as surgical intervention like Angioplasty & CABG. But there is no any medication to prevent or rehabilitate this disease in modern science. Research proved life style modification plays definitive role in prevention of CAD. With the help of Ayurveda, prevention and rehabilitation of Hridrog can be done by Trisutri management. (Diet, Exercise & Stress management)

Index Terms-
Angina Pectoris, Coronary Artery Disease (CAD), Diet, Exercise Hridrog, Stress management, Trisutri.

Introduction-
In Ayurveda Hridrog is considered as Kashatsadhyva Vyadh i.e. difficult to cure. As per modern & speedy life style incidences of Hridrog (Heart Diseases) are increasing. Heart disease is commonly known as Coronary Artery Disease (CAD). To treat CAD modern science uses medication as well as surgical intervention like Angioplasty & CABG. But there is no any medication to prevent or rehabilitate this disease in modern science. Research proved life style modification plays definitive role in prevention of CAD. With the help of Ayurveda, prevention and rehabilitation of Hridrog can be done by Trisutri management. (Diet, Exercise & Stress management)

1. AIM of the project –
To observe the effect of Trisutri management in Hridrog (IHD & Angina) patients.

2. Materials and Methods –
2.1 - To detect patients with Angina, we used the questionnaire of London school of Cardiology and observed the preventive effect.
2.2 - We observed rehabilitation effect in IHD patients.
2.3 - We selected the patients, who are under observation of cardiologist.
2.4 - Diet charts – To lower cholesterol & less lipids, green leafy vegetables, salads (onions, garlic, carrots, tomato, cucumber etc) fruits, toned milk. Phulakas, Sprouts – twice in week, Cereals, rice (Bharjit shali), in case of non-vegetarian diet – once in week allowed only Less spicy & oily fishes & chicken. Egg without yellow yolk. Restricted Sugar & salty diet. Avoid saturated fats, avoid Bakery products, fermented food products, junk & fast food & canned food products. To restrict Tea & coffee.
2.5 - Totally avoid Alcohol, tobacco in any form & smoking.
2.6 - Exercises - Breathing exercise - Deep breath (Anulom & Vilom – Pranayam), Stretching & aerobic exercise & avoid unaerobic exercise. Walking in fresh air (Morning walk) – not brisk walking or jogging. Progressive deep relaxation – Shavasana.
2.7 - Stress management –
Prarthana, Meditation, (Omkar stavan), free mind meditation, positive thinking, Visualisation.
2.8 – Dinkram – Wake up time 6 O’clock, exercise & meditation – up to 7.30am. Relaxation up to 8.00 o’clock, then Breakfast - up to 8.20am.
Lunch time 12.30-01.00pm. one fruit or fruit juice at 4.30-05.00pm.
At 06.00 pm stretching, walking & positive thinking and Dinner
At 08.00pm. At 09.30pm Prartha, Meditation & visualisation
Followed by sleeping time at 10.00pm.

3. Selected patients divided in two groups –
   a> Newly diagnosed Angina Pectoris Patients.
   b> Known case of IHD.

3.1 – Selection criteria –
   Both groups of patients should non Diabetic,
   BMI of those patients should not more than 28.
   No any major hormonal diseases.

4. Questionnaire to diagnose Angina Pectoris –
   I] Have you ever had pain or discomfort in your chest?
       Yes/No.
       If Yes , ask the next question.
   II] Do you get it when you walk uphill or hurry?
       Yes/No/ Never hurries or walks uphill.
   III] Do you get it when you walk at an ordinary pace on the level?
       Yes/No.
   IV] What do you do if you get it while walking?
       Stop or Slow down/Carry on.
   V] If you stand still, what happens to it?
       Relieved / Not relieved.
   VI] How soon?
       Ten minutes or less/More than ten minutes.
   VII] Will you show me where it was?
       Sternum (upper / Middle/lower)
       Left anterior chest.
       Left arm.
       Other.
       (Record all area mentioned)

VIII] Do you fill it any where else?
       Yes/No
       (If yes, record additional information)

‘Angina’ is defined as being present in subjects who answer as follows –
   Q.1 – Yes,
   Q.2 or 3 – Yes,
   Q.4 – Stop or slow down.
   Q.5 – Relieved.
   Q.6 – 10 minutes or less,
   Q7. – A. Sternum – Upper/Middle/Lower.
   Or B. Left anterior chest and Left arm.

5. Drug therapy should be continued as per advice of cardiologist.

6. Each patient was followed every weekly.
   Each patient had regular four visits.
   If the patient having episodes during treatment period, is allowed to visit more than Four times.

7. OBSERVATIONS & RESULTS –
   (After one month, followed by Trisutri Management)
   7.1 – Relieved chest pain/ discomfort/ palpitation.
   7.2 – Relieved dyspnoea.
   7.3 – Increased capacity to walk.
   7.4 – Regulation of bowel habits.
   7.5 – Reduced stress levels – emotional stress as well as anxiety.
   7.6 - Calm and quit sleep.
   7.7 – Sense of well being.
8. CONCLUSION – TRISUTRI management plays definitive role in prevention of HRIDROG, as all the patient get symptomatically relief. None of patient had chest pain or discomfort of chest or dyspnoea during the course of treatment, all of them had feeling of well being as the stress factor reduced. This effect can not be measured by any machine. Patients feels enthusiasm And their confidence increases.

9. ACKNOWLEDGEMENT – Thanks to all who help me in conducting this project. Special thanks to Dr. C.V.Patil sir, (Cardiologist) , Dr.Abhijit Gune , without his co operation this project is not possible.

10. REFERRANCES –

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2. Dean Ornish’s ‘programme for reversing Heart Disease.
3. Dr. Ramnath Kapadia – Heart Disease ‘New Direction’.
4. Indian Heart Journal.
Key words: - Shiva Guggulu, Simhnad Guggulu, Amavata, Sandhi Shula, Sandhi Shotha.

INTRODUCTION:

Amavata is one of the dreadful disorders and included under the vata vyadhis in Ayurveda. The annual incidence rate of rheumatoid arthritis is low however the prevalence rate of the same is very high. Of all the rheumatic disorders, rheumatoid arthritis still remains a formidable disease, as it causes severe crippling deformities and functional disabilities. The disease can undergo spontaneous remission and it is difficult to forecast the outcome of the disease and it makes the evaluation of new drug is also difficult. If proper attention has not been paid the condition turns to its worse.

The severe pain and crippling deformities with functional abnormalities makes the patient to seek doctor’s advice. Even in modern system of medicine the drug therapy for rheumatoid arthritis is empirical and is focused on 3 issues-

1. Relieving the pain along with control of inflammation,
2. Improving and maintaining the function and
3. Prevention of the deformity.

However none of the medicine available at present can give everlasting benefit thereby permanent remission from the symptoms. The drugs which are available as on today are only of value in achieving the symptomatic relief. But their use is restricted because of number of adverse effects attached to their usage. It is because of this reason the people are looking towards a safe and effective drug.

OBJECTIVES OF THE STUDY:-

1] To assess the comparative efficacy of Shiva Guggulu and Simhnad Guggulu in the management of amavata.
2] To find out a safe, simple, effective and economical method of treating Amavata.
3] To rule out possible adverse effect of study drugs.

MATERIALS AND METHODS:-

The therapeutic protocol in the present study includes 30 patients in 2 groups; selected from OPD/IPD of NIA Hospital Jaipur, fulfilling the criteria of diagnosis, with irrespective of their age, sex, religion etc, using randomized single blind method of trial.

- Inclusion criteria:-
  ✓ Patients having the signs and symptoms of Amavata.
  ✓ Patients with RA factor negative but having the symptoms of Amavata.
- Exclusion criteria:
  ✓ Patients with complications of RA.
  ✓ Patients in late stage of RA.
- Criteria for Diagnosis:

A special proforma was prepared incorporating all the signs and symptoms based on both Ayurvedic as well as Modern descriptions. All the points in the perspective of Dosha, Dusya, Srotasa and Agni on Ayurvedic line were also included in the proforma. A detailed clinical history was taken initially and complete physical examination of
each patient was carried out on the basis of proforma. RA factor test, Hb% , ESR, CBC were carried out in all the patients.

Table 1 Showing posology of trial drug:

<table>
<thead>
<tr>
<th>Group</th>
<th>Drug Administered</th>
<th>Dose</th>
<th>Anupana</th>
<th>Time of administration</th>
<th>Duration of treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Self made Shiva Guggulu vati (R.S.S.)</td>
<td>3 gm</td>
<td>Luke warm water</td>
<td>After meal twice a day</td>
<td>21 days</td>
</tr>
<tr>
<td>B</td>
<td>Self made Simhnad Guggulu (V.S.)</td>
<td>3 gm</td>
<td>Luke Warm water</td>
<td>After meal twice a day</td>
<td>21 days</td>
</tr>
</tbody>
</table>

R.S.S.- Rasendra Sara Samghraha Ref.
V.S. – vangasena Samhita

- Follow up study:
  During the trial all patients were regularly analyzed and advised to attend O.P.D. after every 10 days

Clinical Assessment:

Assessment of the treatment was done on the basis of the relief in the clinical signs and symptoms of the disease. Most of the signs and symptoms of the disease described in Ayurvedic classics are subjective in nature. Hence in order to provide some objectivity to the subjective results and to make easy the statistical analysis, multidimensional scoring system was adopted for the patients. This symptoms score was calculated before and after the treatment through statistical analysis and percentage of relief was noted to assess the efficacy of therapy. Scoring pattern was adopted to assess the relief in the cardinal symptoms.

- Criteria for Assessment of overall effect of therapy
  Data obtained from the parameters of assessment, before & after the therapy was utilized to evaluate the overall effect of therapy.

  - Marked improvement
    75% to 100% relief

  - Moderate improvement
    50 to 75% relief

  - Mild improvement
    25 to 50% relief

  - No improvement
    < 25% relief

- Statistical Analysis
  The information collected on the basis of observation were analyzed by paired “t” test to evaluate the significances at different levels i.e. at 0.05, 0.01and 0.001 levels. The obtained results were interpreted as follows,

  Not significant - p>0.10
  Significant - p<0.05
  Moderately Significant - p<0.01
  Highly Significant - p<0.001

RESULTS:

After completion of the therapy of ShivaGuggul for 21 days, its effect on the clinical features were observed as presented by table 2. Its provide highly significant relief in Sandhi shotha(77%), Sandhi Shula (68%) ,Gaurava (60%) and Aangmardh(45%) [p<0.001], Effect was stastically significant in A-P Vedana(71%),Sandhi Graha(45%), Aruchi(45%) and Jwara(100%) [p<0.05].
After completion of the therapy of Simhnad Guggul for 21 days, its effect on the clinical features was observed as presented by table 3. Its provide highly significant relief in Sandhi Graha(92%), Aangmarda (62%) ,Aruchi (57%), Sandhi Shotha (54%) and Sandhi Shula (52%) [p<0.001]. Effect was stastically significant in A-P Vedana (83%), and Jwara (77%) [p<0.05].

Table 2 showing effect of the Group A (Shiva Guggulu) on various subjective parameters of Amavata:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>N</th>
<th>Mean</th>
<th>Difference</th>
<th>% of Relief</th>
<th>S.D.</th>
<th>S.E.</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandhi Shula</td>
<td>13</td>
<td>1.92</td>
<td>0.61</td>
<td>1.30</td>
<td>68</td>
<td>0.48</td>
<td>0.13</td>
<td>9.8</td>
</tr>
<tr>
<td>Sandhi Shotha</td>
<td>13</td>
<td>0.69</td>
<td>0.15</td>
<td>0.53</td>
<td>77</td>
<td>0.51</td>
<td>0.14</td>
<td>3.7</td>
</tr>
<tr>
<td>Sandhi Graha</td>
<td>13</td>
<td>0.84</td>
<td>0.46</td>
<td>0.38</td>
<td>45</td>
<td>0.50</td>
<td>0.14</td>
<td>2.7</td>
</tr>
<tr>
<td>A-P Vedana</td>
<td>13</td>
<td>0.53</td>
<td>0.15</td>
<td>0.38</td>
<td>71</td>
<td>0.50</td>
<td>0.14</td>
<td>2.7</td>
</tr>
<tr>
<td>Aangmarda</td>
<td>13</td>
<td>1.53</td>
<td>0.84</td>
<td>0.69</td>
<td>45</td>
<td>0.48</td>
<td>0.13</td>
<td>5.19</td>
</tr>
<tr>
<td>Aruchi</td>
<td>13</td>
<td>0.84</td>
<td>0.46</td>
<td>0.38</td>
<td>45</td>
<td>0.50</td>
<td>0.14</td>
<td>2.73</td>
</tr>
<tr>
<td>Trishna</td>
<td>13</td>
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<td>0</td>
<td>0.07</td>
<td>100</td>
<td>0.27</td>
<td>0.07</td>
<td>1</td>
</tr>
<tr>
<td>Gaurava</td>
<td>13</td>
<td>1.53</td>
<td>0.61</td>
<td>0.92</td>
<td>60</td>
<td>0.64</td>
<td>0.17</td>
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<tr>
<td>Jwara</td>
<td>13</td>
<td>0.38</td>
<td>0</td>
<td>0.38</td>
<td>100</td>
<td>0.50</td>
<td>0.14</td>
<td>2.73</td>
</tr>
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</table>

Table 3 showing effect of Group B (Simhnad Guggulu) on various subjective parameters of Amavata:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>N</th>
<th>Mean</th>
<th>Difference</th>
<th>% of Relief</th>
<th>S.D.</th>
<th>S.E.</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sandhi Shula</td>
<td>15</td>
<td>2.5</td>
<td>1.2</td>
<td>1.33</td>
<td>52</td>
<td>0.48</td>
<td>0.12</td>
<td>10</td>
</tr>
<tr>
<td>Sandhi Shotha</td>
<td>15</td>
<td>0.73</td>
<td>0.33</td>
<td>0.4</td>
<td>54</td>
<td>0.50</td>
<td>0.13</td>
<td>3</td>
</tr>
<tr>
<td>Sandhi Graha</td>
<td>15</td>
<td>0.93</td>
<td>0.06</td>
<td>0.86</td>
<td>92</td>
<td>0.35</td>
<td>0.09</td>
<td>9.5</td>
</tr>
<tr>
<td>A-P Vedana</td>
<td>15</td>
<td>0.4</td>
<td>0.06</td>
<td>0.33</td>
<td>83</td>
<td>0.48</td>
<td>0.12</td>
<td>2.64</td>
</tr>
<tr>
<td>Aangmarda</td>
<td>15</td>
<td>1.8</td>
<td>0.66</td>
<td>1.13</td>
<td>62</td>
<td>0.51</td>
<td>0.13</td>
<td>8.5</td>
</tr>
<tr>
<td>Aruchi</td>
<td>15</td>
<td>1.26</td>
<td>0.53</td>
<td>0.73</td>
<td>57</td>
<td>0.70</td>
<td>0.18</td>
<td>4</td>
</tr>
<tr>
<td>Trishna</td>
<td>15</td>
<td>0.13</td>
<td>0</td>
<td>0.13</td>
<td>100</td>
<td>0.35</td>
<td>0.09</td>
<td>1.4</td>
</tr>
<tr>
<td>Gaurava</td>
<td>15</td>
<td>0.73</td>
<td>0.4</td>
<td>0.33</td>
<td>45</td>
<td>0.72</td>
<td>0.18</td>
<td>1.7</td>
</tr>
<tr>
<td>Jwara</td>
<td>15</td>
<td>0.6</td>
<td>0.13</td>
<td>0.46</td>
<td>77</td>
<td>0.83</td>
<td>0.21</td>
<td>2.16</td>
</tr>
</tbody>
</table>
DISCUSSION:-

As the present disease is born out from the vitiated vata and kapha. Main pathology in the disease is Ama nirmiti. As the trial drug (Shiva Guggulu and Simhnad Guggulu) had definite action on vitiated vata and kapha dosha. Most of the drugs used in this formulation were Katu, Tikta in Rasa and Ushna Virya which possess the antagonistic properties to that of Ama and Kapha which are the chief causative factors in this disease. Due to this Katu rasa and Ushna Virya leads to increase digestive power which also digests Amaresa. Because of Tikshna, Ushna and Ruksha Guna pacify the vitiated Vata and Kapha and do not allow the Ama to stay at the site of pathogenesis and to create Srotorodha.

Most of the drugs in the Shiva Guggul are Agnideepaka, pachana,Amanashana, Yogvahi and Vatanulomana property. Tikta Rasa remove adhered Dosha from the Dushita Srotas . Due to Srotovivronoti, Agnideepana and Pachana property of Katu Rasa helps in Srotashodhana.

Group A(Shiva Guggulu): - this group provides highly significant result in Sandhishula, Sandhi shotha, and Angamarda symptoms while Sandhi graha, A-P Vedana, aruchi and Jwara shows significant results. Trishna symptom shows non significant result, as this symptom was found only in 2 patients during trial.

Group B(Simhnad Guggulu): - This group gives highly significant relief in Sandhi shula, Sandhi shotha, Sandhi graha, Angamarda and Aruchi. A-P Vedana and Jwara provide significant relief while Trishna and Gaurava provide non significant result.

From above data it can be analysed that Group A provide highly significant relief in Sandhi shula and Sandhi shotha as compare to Group B while Group B provide highly significant relief in Sandhi graha as that of Group A, both the Groups gives non significant result in Trishna.

In assessing overall effect of therapy it was seen that –

In Group A (Shiva Guggulu) 13 patients were treated, out of which, 6 (46.15 %) patients got marked improvement, 5 (38.47 %) patients got cured and 2 patients (15.38) got mild improvement.

In GroupB (Simhnad Guggulu) -out of 15 patients, 6 patients (40 %) got marked improvement, 5 patients (33.33 %) got improved and 4 patients (26.67 %) were cured.

None of the patient was found unchanged in both the groups.

The improvement was statistically highly significant in both the groups but comparatively better results were observed in group-B (table 5.42), it may be because of comparatively high percentage of Guggulu and Eranda oil in Simhnad Guggulu which helps to relieve the shool, shotha and sandhi graha. Guggulu is well known anti inflammatory and analgesic drug, also in Ayurvedic classic it’s Rasayana property was mentioned which helps to overcome the immunological derangement induced in RA by boosting once immunity which breaks the pathogenesis of the disease.

CONCLUSION:-

1. Both the trial drugs are effective in the management of Amavata but Simhnad Guggulu is more effective than Shiva Guggulu.
2. This preparation did not impart any side effect and the given dose was well tolerated by the patient without any undesirable side effect like Nausea, Vomiting etc.

References and bibliography:

Abstract
Leeches found very effective and 100% curative role in various non curable diseases by other pathies. Jaloka is a treasure and blessing of Ayurveda never says no to any problem that’s why it is accepted worldwide for various disorders. Acharya Sushruta and Vagbhata advised various diseases for Jalokavcharan. Ashtishotha (Ostetomylitis) is one of them considering this, we tried on the case of osteomyelitis and we got miracle result.

Key words- osteomyelitis, Jalokavcharan-Leech application.

Introduction
Jaloka (Leech) lives in ‘Jala’ that’s why it is cool and useful in Pittaj Vyadhi. In deep seated pus collection or blood clot Jaloka the ‘tiny surgeon’ aspirate well without any instrument.

Osteomyelitis can be correlate with asthishotha or asthividradhi in which there is pus collection &inflammation due to dusshit rakta it destroy the asthi,majja.it is very painful. By modern view it is caused by infective organism which reach the bone by blood stream. There must be a focus of infection in the body e.g. boil, an infected graze abrasion, or from out side(from any operation of bone particularly internal fixation of nail etc). This exogenous infection of bone is more common in adult and cause localised infection common sites at the lower end of femur.

Case report-
A 55 year old male presented with the complaints of non-healing ulcer on medial malleolus, oedema of ankle, severe pain and unable to walk since 10 months.

K/C of diabetes mellitus since 15 years taking anti diabetic treatment. Patient was operated for non healing ulcer (I & D and scrapping) at private hospital. Patient has old history of fracture of lower end of femur and tibia, nail fixation was done that time. After some years, when the nail was removed a lower inflamed part of femur was also excised. Now since 10 months there is a pain and swelling at right ankle joint, ulcer on medial malleolus many times he treated by antibiotic but now he got resistance and recurrence of symptoms observed and he advised amputation. In local examination oedema on ankle, ulcer size 3X3, rounded in shape, indurated edges, purulent discharge, hard swelling (bony swelling) at medial malleolus and previous scar of surgery observed there. Routine haematology BSL urine investigation within normal limit, X-ray Rt. Ankle joint showed periosteal thickening with sclerosis of articular surfaces. The patient was treated as follows.

Results – After Leech application pain subsided immediately from first setting. Oedema gradually reduces after five setting. Wound started to show tendency of healing. Healthy granulation tissue formed in the floor of wound. Edges became soft and bluish in colour. The wound size decreased. After about 20 to 22 days the wound totally healed but the hard oedema of medial mallouls still there which gradually subsided in one and half month. The patient came for follow up initially after one month interval and then after every three months. Now the patient has no complaint he is totally free from the disease and carries out all his regular activities without any hindrance.

Discussion – once chronic osteomyelitis has developed the treatment is operation. Operation mainly aims at removal of dead bone or sequestrum and elimination of dead space. One
must be careful not to injured any important blood vessel or nerve. It needs anaesthesia, after procedure splintage, heavy antibiotics, analgesic, rest and proper diet even though chances of recurrences are more and patient becomes resistant to antibiotics.

<table>
<thead>
<tr>
<th>No</th>
<th>Procedure</th>
<th>Medication</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leech application on medial and lateral side of right ankle joint.</td>
<td>Anuvasan basti(Til Tail + Niruhabasti (Dashmuladi wathik)</td>
<td>On alternate day then weekly</td>
<td>Five settings four setting</td>
</tr>
<tr>
<td>2</td>
<td>Shodhan chikitsa a) Yogbasti followed by b) Panchtkta ksheer basti</td>
<td>Panchtkta siddha Milk</td>
<td>7days</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shaman Chikitsa</td>
<td>Manjistha, Sariva, Nimbadi churna, Arogyavardhani Vati, Lakshadi Guggul</td>
<td>200mg 250mg bid 500 mg bid</td>
<td>3 Months</td>
</tr>
</tbody>
</table>

Our Acharyas have stated Jaloka as the best Anushastra. It sucks only impured blood after application on Vrana of osteomyelitis. Jaloka’s saliva contains some anaesthetic properties which subsides pain immediately, hirudine dissolves any local blockage and improves blood circulation and tends to wound healing. Dressing of Madhu and ghrita act as a sandhan karma helps faster wound healing. Yog basti subsided prakupit Vat dosha, Panchtkit ksheer basti contributed in shodhan and ashtiposhan. Shaman chikitsa contributes as analgesic, control of blood sugar level, Raktaprasadan and ashtiposhan. Regular application of jaloka minimise Shotha(Oedema of ankle)

After treatment wound completely healed, oedema subsided, improvement of movements of the joints, patient can walk happily without support.

There were no adverse events through out the management. The treatment was found to be cost effective, curative, safe and easy to implement.

Reference:
1) Susrut samhita sutrasthan – Ambikadatta shastri
2) Ashtang Sangraha
3) Text book of Surgery by Das.
4) Principal of internal Medicine Harrison.
<table>
<thead>
<tr>
<th>Leech application on non healing ulcer (Diabetic) with osteomyelitic swelling of ankle joint.</th>
</tr>
</thead>
<tbody>
<tr>
<td>After treatment ulcer healed and oedema minimised. A case discussion on osteomyelitis</td>
</tr>
</tbody>
</table>
Abstract
In present era, the full computerization of a country is necessary for the progress. Present era can be defined as “Computer Age”. It has seems that the work at computer is very intensive & most tiring therefore countries like Germany has included computer operational work in the list of the 40 most harmful trades for the health & restricted work at the computer should not exceed 50% of the working time. In the developing countries like India where the remuneration for the work are far from satisfactory & the young generation is aspiring for more material gains which necessitate them to work over time or have part time jobs in addition to their legitimate work. This situation adds up to the works with the computer which badly affects their health.

Computer Vision Syndrome (CVS) is the complex of eye and vision problems related to near work which are experienced during or related to computer use. CVS is characterized by visual symptoms which result from interaction with a computer display or its environment. In most cases, symptoms occur because the visual demands of the task exceed the visual abilities of the individual to comfortably perform the task.

In cvs following Signs & Symptoms occurs. they are Presence of excessive debris & mucus strands in the tear film., Reduced or absence of marginal tear strip. Lusterless ocular surface - xerosis. Lid Dry & Rough touch. And Symptoms are Itching, Burning sensation, Blurred vision, Dryness of eyes, Redness of eyes, Pricking Pain, Foreign body Sensation, Difficulty in opening & closing the lids.

For study we have taken Trifala Ghrita Tarpan for 7 days in three consecutive months for 30 patients in treated group and in controlled group eye exercises given like palming, eye movements for 7 days in three consecutive months for 30 patients. The results are very much satisfactory in treated group as compared to controlled group. The details will be given in detail in full research paper.

INTRODUCTION :-
Eye is considered to be the most important and noblest sense organ of human body. In Ayurveda Eye is one of the Dynanedriya which has dominance of Tej Mahabhut. In today’s era of 21st century, the full computerization of a country is necessary for the progress. Like “Stone Age” today era can be defined as “Computer Age”. It has seems that the work at computer is very intensive & most tiring therefore countries like Germany has included computer operational work in the list of the 40 most harmful trades for the health & restricted work at the computer should not exceed 50% of the working time. Other developing countries are also following the suit. In the developing countries like India where the remuneration for the work are far from satisfactory & the young generation is aspiring for more material gains which necessitate them to work over time or have part time jobs in addition to their legitimate work. This situation adds up to the works with the computer which badly affects their health.

Visual display terminals are pc in office, Laptop to them who are in marketing, watching TV, prolong use of mobiles. Hence such long term & repetitive exposure can damages eyes. This damage is called as Computer Vision Syndrome in modern terminology. These ophthalmic health problems have been extensively investigated by American
optometric association of 32 thousand ophthalmologists and opticians which
concluded that working at the computer is unnatural for human eyesight & 70-75% of all
users who work with the computers have problems with the eyesight. Lot of complaints
received from the computer operators about sharp pain in the eyes, blurring of vision and
problems about convergence as constant gazing at the monitor leaves hardly any scope for
blinking causing stress on eye.

While reading a text from a paper the human eye takes the reflected image on which the light
falls, where as reading the text on the computer screen one has to look at the bright source of
light. While operating computer, one has to do both things simultaneously. This results into
stress on eyes, as the eye has to adjust with light from paper & bright light of monitor
simultaneously for thousand times a day. This has a negative influence on the eyesight. In
addition to this brightness of illuminated monitor the light emitted by the monitor
consists of X-rays, UV rays and IR rays along with the wide range of electromagnetic waves
of different frequencies. In the presence of several computers in a small room, ion quantity
may increase. Superfluous quantity of positive ions is considered unhealthy for human beings,
as these ions affect the circulation of blood & have effect on practically every organ in the
body especially vital organs like brain, heart, eyes, kidneys & gonads.

The American Optometric Association defines
Computer Vision Syndrome is caused by
extensive use of computers which reduces the
blinking rate of a person and due to this water
flow across the eyes are reduced drastically and
leads to dryness. People in the age group of 18
to 30 years are at the risk of being affected by
this syndrome if they spend lot of time on
computer. Computer Vision Syndrome (CVS)
is the complex of eye and vision problems
related to near work which are experienced
during or related to computer use. CVS is
characterized by visual symptoms which result
from interaction with a computer display or its
environment. In most cases, symptoms occur
because the visual demands of the task exceed
the visual abilities of the individual to
comfortably perform the task. Vision problems
occur frequently among video display terminal
(VDT) workers & VDT associated vision
problems are more significant than the
musculoskeletal disorders

Other causes of Computer Vision Syndrome:-

- Vitamin – A deficiency
  (Xerophthalmia), chemical burns
- Constant staring at a particular object
  such as T.V., Computer etc.
- Environment – dry, dusty, windy
climate.
- Medication – antihistamines, birth
  control pills.
- Infection – systemic diseases such as
  lupus, rheumatoid arthritis
- Long-term use of contact lenses
- Hormonal changes

Signs & Symptoms Of Computer Vision Syndrome:-

Signs -

- Presence of excessive debris & mucus
  strands in the tear film.
- Reduced or absence of marginal tear
  strip.
- Lusterless ocular surface - xerosis.
- Lid – Dry & Rough touch.

Symptoms-

- Itching (Netrakandu)
- Burning sensation.(Netradaha)
- Blurred vision. (Drishtivaishmyata
  i.e.Dhusardrishtita )
- Dryness of eyes.(Netrarukshata)
- Redness of eyes.(Araktnetra)
- Pricking Pain (Netrashool)
- Foreign body Sensation. (Abhighatatate)
Difficulty in opening & closing the lids (Krichhonmilan)

Materials and Methods:
For this study we have taken 30 patients in experimental and in controlled group respectively. We have taken randomly patients coming in OPD for computer vision syndrome. For experimental group we administered Triphala Ghrita Netratarpan for 7 days in three consecutive months for 30 patients and for controlled group eye exercises given like palming, eye movements for 7 days in three consecutive months for 30 patients.

Criteria of Selection:
For this study we have taken 30 patients in each experimental and control group irrespectively of age, sex, marital status, educational status and nature of work.

Criteria of Rejection:
Those having local and systemic infective disorders of eye, cataracts glaucoma, degenerative disorders, DM, Hypertension, cardiac and renal disorders.

Selection of Drug:
As Per Ashtanga Hridaya, B.R.64/246-256. Netrarogadhikar, Sharangdhar samhita Madhyam khand 9/65-69 We have selected Trifala Ghrita for Netratarpan. This Siddha Ghrita and instruments are autoclaved daily before procedure. This drug having Sarva Netra Rogaghna properties. Due to these properties it inhibits the sign and symptoms of computer vision syndrome by alleviating Vayu and it nourishes the eye and improves the vision.

Time Of Tarpan:
According to Sushrut (S.U.18/6-11) it is of two types, one as per dominance of Dosha, and another as per vyadhi in different layers of eyes. It comes near about 15-20 minutes. Thus we have done Tarpan for about 15-20 minutes 7 days in three consecutive months for patients in experimental group.

Mode Of Action of Triphala Ghrita in Tarpan:
According to modern pharmacology various drugs used in the form of eye drops and ointments enter the eyeball by passing through the cornea. This penetration depends upon the permeability of the various layers of cornea. The epithelium and endothelium is highly permissible for lipid content as compared to stromal layer. Thus fat soluble drugs readily penetrate these layers, however only water soluble drugs can penetrate the stromal layer. Thus for complete penetration of the drug, it should be lipophilic and hydrophilic.

The Triphala Ghrita which is generally used for Tarpan is saturated with decoction of (Triphala) indigenous drugs and hence it contains both lipid and water soluble constituents of Triphala. Thus it has lipophilic as well as hydrophilic properties. Hence it has got very good penetration through various layers of the cornea.

Clinical Study:
We have taken 30 patients randomly in Experimental Group and Control Group respectively.

Table 1: Showing Age wise Distribution of 60 Patients of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Age Group</th>
<th>No. Of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EG</td>
<td>CG</td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>27</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0</td>
<td>3</td>
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</table>
## Table-2 Showing Sexwise Distribution Of 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Sex</th>
<th>No. Of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EG</td>
<td>CG</td>
</tr>
<tr>
<td>1</td>
<td>Male</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>07</td>
<td>16</td>
</tr>
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</table>

## Table-3 Showing Marital status Of 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Marital status</th>
<th>No. Of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EG</td>
<td>CG</td>
</tr>
<tr>
<td>1</td>
<td>Married</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Unmarried</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Widow</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>Widower</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

## Table-4 Showing Educational status Of 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Educational status</th>
<th>No. Of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EG</td>
<td>CG</td>
</tr>
<tr>
<td>1</td>
<td>Uneducated</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>Educated a) Primary</td>
<td>02</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>b) High school</td>
<td>06</td>
<td>04</td>
</tr>
<tr>
<td></td>
<td>c) UG</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>d) PG</td>
<td>08</td>
<td>02</td>
</tr>
</tbody>
</table>

## Table 5 Showing Nature Of Work Of 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Nature Of Work</th>
<th>No. Of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EG</td>
<td>CG</td>
</tr>
<tr>
<td>1</td>
<td>Manual</td>
<td>02</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>Sedentary</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Labour</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>Travelling</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>5</td>
<td>Standing</td>
<td>02</td>
<td>01</td>
</tr>
</tbody>
</table>
### Table-6 Showing Incidence of Symptoms in 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Incidence of Symptoms</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of Patients</td>
<td>%</td>
<td>No. of Patients</td>
</tr>
<tr>
<td>1</td>
<td>Netrarukshata</td>
<td>30</td>
<td>100.00</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>Krichhonmilan</td>
<td>28</td>
<td>93.33</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Drishtivaishmyata</td>
<td>27</td>
<td>90.00</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>Netradaha</td>
<td>25</td>
<td>83.33</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>Netrashool</td>
<td>24</td>
<td>80.00</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Netrakandu</td>
<td>25</td>
<td>83.33</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>Araktnetra</td>
<td>26</td>
<td>86.66</td>
<td>27</td>
</tr>
<tr>
<td>8</td>
<td>Abhighatate</td>
<td>23</td>
<td>76.66</td>
<td>24</td>
</tr>
</tbody>
</table>

### Criteria for symptom score:

1. Two marks was given to each symptom present before the treatment.
2. One mark was given to each symptom reduced remarkably after the treatment.
3. Zero mark was allotted to complete relief in the symptoms.
4. Two marks were allotted to the symptoms which did not show any improvement after the completion of treatment.

### Table-7 Showing Effect of Therapy on Symptoms Score in 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Symptoms of CVS</th>
<th>Symptoms Score of Experimental Group</th>
<th>Symptoms Score of Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
</tr>
<tr>
<td>1</td>
<td>Netrarukshata</td>
<td>60</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>Krichhonmilan</td>
<td>56</td>
<td>02</td>
</tr>
<tr>
<td>3</td>
<td>Drishtivaishmyata</td>
<td>54</td>
<td>00</td>
</tr>
<tr>
<td>4</td>
<td>Netradaha</td>
<td>48</td>
<td>02</td>
</tr>
<tr>
<td>5</td>
<td>Netrashool</td>
<td>48</td>
<td>00</td>
</tr>
<tr>
<td>6</td>
<td>Netrakandu</td>
<td>50</td>
<td>00</td>
</tr>
<tr>
<td>7</td>
<td>Araktnetra</td>
<td>52</td>
<td>00</td>
</tr>
<tr>
<td>8</td>
<td>Abhighatate</td>
<td>46</td>
<td>00</td>
</tr>
</tbody>
</table>
Effect of Therapy on Symptoms Score:-
According to Effect of Therapy on Symptoms Score for Netrarukshata Before Treatment was 60, After Treatment it is 0. The relief of percentage in Experimental Group was 100%. In the same manner Krichhonmilan Before Treatment it was 56, After Treatment it is 02. The relief of percentage in Experimental Group was 96.42%. Drishtivaishmyata Before Treatment was 54 After Treatment it is 0. The relief of percentage in Experimental Group was 100%. Netradaha Before Treatment was 48 After Treatment it is 0. The relief of percentage in Experimental Group was 95.83%. Netrashool Before Treatment was 48 After Treatment it is 0. The relief of percentage in Experimental Group was 100.00%. Netrakandu Before Treatment was 50 After Treatment it is 0. The relief of percentage in Experimental Group was 100.00%. Abhighatate Before Treatment was 46 After Treatment it is 0. The relief of percentage in Experimental Group was 100.00%.(Table-6)

In case of Control Group the relief of percentage in Abhighatate, Netradaha, Drishtivaishmyata is 37.50%, 24.00%, and 29.16% respectively. (Table-6)

Table 7 Showing The Effect of Therapy on various Parameters By Paired t Test in Both Groups Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Parameter</th>
<th>Group</th>
<th>Mean±Sd</th>
<th>Diff of Mean (BT-AT)</th>
<th>SE d</th>
<th>Paired t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>BT</td>
<td>AT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Netrarukshata</td>
<td>EG</td>
<td>2.867±0.346</td>
<td>0.333±0.479</td>
<td>2.533</td>
<td>0.115</td>
<td>22.037</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CG</td>
<td>2.633±0.490</td>
<td>1.333±0.547</td>
<td>1.300</td>
<td>0.128</td>
<td>10.126</td>
</tr>
<tr>
<td>2</td>
<td>Netradaha</td>
<td>EG</td>
<td>2.800±0.407</td>
<td>0.433±0.774</td>
<td>2.367</td>
<td>0.176</td>
<td>13.424</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CG</td>
<td>2.667±0.479</td>
<td>1.200±0.714</td>
<td>1.467</td>
<td>0.171</td>
<td>8.561</td>
</tr>
<tr>
<td>3</td>
<td>Netrashool</td>
<td>EG</td>
<td>2.867±0.346</td>
<td>0.267±0.450</td>
<td>2.600</td>
<td>0.103</td>
<td>25.250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CG</td>
<td>2.700±0.596</td>
<td>0.900±0.803</td>
<td>1.800</td>
<td>0.162</td>
<td>11.104</td>
</tr>
<tr>
<td>4</td>
<td>Araknetra</td>
<td>EG</td>
<td>2.933±0.254</td>
<td>0.167±0.379</td>
<td>2.767</td>
<td>0.079</td>
<td>35.179</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CG</td>
<td>2.767±0.504</td>
<td>0.833±0.747</td>
<td>2.100</td>
<td>0.154</td>
<td>13.596</td>
</tr>
</tbody>
</table>

By shirmer's test
0-wetting > 16 mm
1-wetting 12-16mm
2-wetting 06-12mm
3-wetting < 6mm

1. Redness(Aракnetра)-
No Redness - 0
Palpebral conjunctival congestion -1

Bulbar conjunctival congestion - 2
Both palpebral and bulbar conjunctival congestion - 3

2. Burning sensation(Nетрадаха)
No burning sensation  0 [5 ,6 ]
Burning sensation on exposure to sunlight  1 [7]
Intermittent burning sensation  2
Continuous burning sensation  3
Table 9 Showing Effect of Therapy in 60 Patients Of Computer Vision Syndrome

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.of Pts</td>
<td>Percentage</td>
</tr>
<tr>
<td>1</td>
<td>Cured</td>
<td>00</td>
</tr>
<tr>
<td>2</td>
<td>Markedly Improved</td>
<td>06</td>
</tr>
<tr>
<td>3</td>
<td>Improved</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>Unchanged</td>
<td>00</td>
</tr>
<tr>
<td>5</td>
<td>LAMA</td>
<td>00</td>
</tr>
</tbody>
</table>

Bibliography:

1. A.H.S.24/1-3 Netraratpan
2. S.U.18/6-11 Tarpan kal
3. B.R.64/246-256, B.R.64/257-262, B.R.64/263 Triphala Ghrita
4. S.U.18/43, A.H.S.24/4-9, S.U.18/6-8, Tarpanvidhi
12. Ayurvedic Medicines (Yogas) used in Viper Bite (Mandali Sarp) Management – A Review.

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ABSTRACT
In India it is believed that about 2 million people are bitten by snakes annually of which 15000-30000 cases prove fatal. There are three families of venomous snakes of importance in India. In India number of incidences is more from Viper Bite (Mandali Sarp DAns). In India 65% people from rural area use Ayurvedic and Herbal medicines for the treatment of various venomous bites.

The present paper deals with the review of various Yogas (medicines) and treatment of Viper Bite (Mandali Sarp DAns) described in Ayurveda.

Keywords: Ayurvedic Yogas (Medicines), Viper snake (Mandali Sarp)

INTRODUCTION
Any science such as Ayurveda has its practical findings based on certain concepts. Advances in the knowledge are made possible for the benefit of mankind. Agadatantra, one among the eight branches of Ayurveda details on toxins, their effects on body and its treatment. The fatal cases in the field of poisoning are those of poisonous snakebites. In India it is believed that about 2 million people are bitten by snakes annually, of which 15,000-30,000 cases prove fatal. Though there are 375 species, only 3 families of venomous snakes are of importance in India. Two families are more prevalent in India and number of incidences is more from Viper bite of Viperidae family.

In our country Herpetologists, sarpmitras, trackers, large number of people who stay in villages, mountains and forests are more exposed to snake bites. In these remote areas due to lack of transport facilities and primary aid more people succumb to death.

In India incidence of viper bite is high. No specific anti venom of Viper is available. In viper bite cases early treatment saves the life of the patient. Currently the treatment is only limited with Polyvalent Anti Snake Venom which is available in Government hospitals and it is not easily available in villages, mountains and forest areas and need trained persons for its administration. Also it is not affordable to poor patients.

In this current scenario it is the need of the hour to develop Ayurvedic management as a first aid measure, which will help the patients of snakebite. As the bite cases of Mandali sarp dansh are more and a treatment regime is described in Ayurveda in detail. Hence the aim of present paper was to review the Ayurvedic yogas and treatment used for the management of viper snake bite. This systematic review was conducted with an objective to search an ideal Ayurvedic regime for viper snake bite.

viper in Ayurvedic view may be ‘Venupatraka’ a Mandali sarpa on morphological analysis and ‘Sopha Mandali’ on symptom wise analysis, the subdivision being ‘Mula Mandali’.

Russell’s viper in view a Mandali Sarp on morphological analysis and symptom wise analysis.

MATERIALS AND METHODS
All relevant information from ayurvedic Samhittas (Brihatryees) including Vishjyostnika.
Electronic database search on google was conducted for the review.

Relevant information from already Published various researches on snake bite.

Following Treatment is present in Ayrveda for Viper bite (Mandali Sarp Dansh)

**MANDALI SARP DANSH CHIKISTA ACCORDING TO AYURVEDA**

**According to Charakacharya**

Chikista According To Vega S.K.5/24-27

<table>
<thead>
<tr>
<th>Vega</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First Vega</td>
<td>Raktamokshan</td>
</tr>
<tr>
<td>2. Second Vega</td>
<td>Agad added with honey and ghee should be given, then Vaman should be induced and Yavagu given to drink.</td>
</tr>
<tr>
<td>3. Third Vega</td>
<td>Shodhan should be done using powerful recipes and then Yavagu given to drink.</td>
</tr>
<tr>
<td>4. Fourth Vega</td>
<td>Vaman should be induced and Yavagu given to drink.</td>
</tr>
<tr>
<td>5. Fifth Vega</td>
<td>Sheetopchar and Shodhan then Yavagu given to drink.</td>
</tr>
<tr>
<td>6. Sixth Vega</td>
<td>Peya prepared from of Kakolyadi Gana which is sweet in test and ideal with Agad.</td>
</tr>
<tr>
<td>7. Seventh Vega</td>
<td>Anti poisonous Avapida and Agad should be administered.</td>
</tr>
</tbody>
</table>

**Mandali Dansh Vishesha Yoga**

1. **Drakshadi agad S.K.5/76-77**

Draksha, Sugandha(Sarpandha), Nagavritika(Shallaki), Sveta, And Samanga all equal quantity forming one part, mixed with two parts of powder of bark of Surasa Kapittha, Bilva, and Dadima and half part of powder of Sitasindhuvara, root of Ankot, and Gairika – all mixed well, added with honey and used; this destroys poison of Mandali.

**According to Astang Sangrah & Astang Hridaya Veganurupa Chikitsa**

<table>
<thead>
<tr>
<th>Vega</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First Vega</td>
<td>Blood letting, Agad administered with honey and ghee.</td>
</tr>
<tr>
<td>2. Second Vega</td>
<td>Vaman and anti poisonous Agad</td>
</tr>
<tr>
<td>3. Third Vega</td>
<td>Vaman and then Peya for drink</td>
</tr>
<tr>
<td>4 Fourth Vega</td>
<td>Drinking of Yavagu after Vaman</td>
</tr>
<tr>
<td>5 Fifth Vega</td>
<td>Body should smeared with cold past of the drugs, frequently Vaman and then Yavagu</td>
</tr>
</tbody>
</table>
Vega | Treatment
---|---
6 Sixth Vega | He should be administered mild anti poisonous Agad of Padmakadi Gana
7 Seventh Vega | Anti poisonous strong collirium and nasal drops should be administered, a deep incision resembling the foot of crow is made on the head with a sharp knife, then a piece of muscle or skin along with the blood is placed on it.

### Mandali Sarp Dansk Vishesha Yoga


Equal parts of Sugandha, Mruduwiaka, Shwetakhya, half part each of leaves of Soursas, Kapittha, Bilva, and Dadima Madein to a paste, mixed with honey and used is specially suitable for poison of Mandali.

#### 2. Himvan Agad

A.H.U.36/63-64, A.S.U.42/32-33

Barks of Panchavalkala, Vara, Yashti, Nagpushpa, Elavaluka, Jivak, Vrishabhak, Sheetam, Sita, Padmak and Utpala made in to a paste and used mixed with honey. This recipe is known as Himwan Agad, destroy poison of Mandali Sarp by external application it cures swelling Visarp, Visphota, Jwar, Daha.

A.H.U.36/65, A.S.U.42/34

Kashamarya, Vatashunga, Jivak, Vrishabhak, Sita, Manjistha And Madhuka made into a paste and consumed cures the poisoning of Mandali Sarp.

#### Astang Agad

A.H.U.36/66

Bark and seeds of Vansha, Katuka, seed of Patali, Nagar, seeds of Shirish, Ativisha, roots of Gavedhuka, and Vacha made into a paste with cows urine. This recipe is known as Astang Agad consumed cures the poisoning of Gonas Sarp.

### MANDALI SARP DANSH CHIKISTA ACCORDING TO VISHA VAI'DYA JYOTSNIKA

**Treatment of Mandali visha**

Visha Vaidya Jyotsnika. Medications for Mandali Visha are prescribed for intake and for external application on the bite site, Dhara, nasal and collyrium application.

### Panadivyogas

1. The root of Nili(Indigofera tinctoria), Patala (Sterospermum suaveolens)the root bark of Karanjapongamia glabra) and Pata (Cyclea peltata) each separately can be taken internally grinded with Luke warm water. The paste of each drug is applied externally as lepa on the site of snake bite.

2. The drug Chandana (Santalum album) with cold water is taken internally.

3. The root bark of the white variety of Kasamarda(Canthum parviflora) is taken internally.

4. The root of Sarpagandha (Rauwolfia serpentina) , Vacha (Acorus calamus) and Seetha (Coleus ambonicus veltereroides)is taken internally.

5. The root of Karaskara (Strychnos nuxvomica) is grinded and paste is applied externally on the site of Mandaldansha.

6. The paste of Sariva (Hemidesmus indicus) and Vacha (Acorus calamus) can be used in the same way.

7. Equal quantity of Yashti madhu (Glycyrrhiza glabra) Chandana (Santalum album) and Usheera (Veteveria zizanioides) is applied as nasal medicine and collyrium application and internally.

8. The drugs Gandhara (Capparis spinosa) and Eeshwaramooli (Aristolochia indica) can be administered internally.

9. The roots of Punarnava (Boerrhavia diffusa) and Arka (Calotropis procera) is
applied internally in the form of juice and externally as paste on the site of Mandalidansha.

10. The internal application of equal quantity of Lodhra (Symplocos racemosa) Seetha(Coleus ambonicus velteneroides) Haridra(Curcuma longa) Daruharidra(Coccinium fenestratum), Sarala(Sesalpinia sappan), Arka(Calotropis procera), Manjishtha(Rubia cordifolia), root of Patala(Stereospermum suaveolens) with Vilwa(Aegle marmoleos) is very effective.

11. Equal quantity of the Tagara (Valeriana wallichii) Chandana (Santalum album),Kushta(Saussurea lappa), Yashtimadhu(Glycyrrhiza glabra) Usheera(Vetiveria zizanioides), Sariva(Hemidesmus indicus) is used internally as decoction and externally as paste on the site of Mandalidansha. This yoga has the same ingredients of Kottamtagaradi, one of the study drugs, but in a different version.

13. The root of Nimba(Azadirachta indica) Nili(Indigofera tinctoria), Karanja(Pongamia glabra) is used internally as decoction and externally as paste,

14. The drugs Murva(Marsenia tenascissima), tuber of Pata(Cyclea peltata),rock salt, Vacha(Acorus calamus) is used internally as decoction and externally as paste on the site of Mandalidansha.

Lepayogas for Mandali Dansha

1. The paste made by roots of Punnarnava(Boerrhavia diffusa) Sigru(Moringa olfera) Shireesha(Albizzia lebbeck) and Ashwagandha(Withania somnifera).

2. The paste made by grinding the barks of Amra(Mangifera indica),Karanja(Pongamia glabra),Amlika(Tamarindus indica) and Ashwagandha(Withania somnifera).

3. Eshwaramooli(Aristolochia indica), Vacha(Acorus calamus), root of Pata(Cyclea peltata), Haridra(Curcuma longa) in rice washed water.

4. The paste made by removing half of seeds from Datura(Datura metal) with small quantity of salt and rice washed water.

5. Kushta(Saussurea lappa), Tagara(Valeriana wallichii) Usheera(Vetiveria zizanioides), Chandana(Santalum album) Yashtimadhu(Glycyrrhiza glabra) Sariva(Hemidesmus indicus) are grinded and the paste is applied externally at the bite site and at vertex and internally as decoction and nasal application. A detailed study of this yoga is given in Drug study.

6. Roots of Punarnava(Boerrhavia diffusa), Arka(Calotropis procera), Eshwaramooli(Aristolochia indica), Gokshura(Trbulus terrestris), Pata(Cyclea peltata), Vacha(Acorus calamus), Haridra(Curcuma longa), bark of Aghori(Flacourtia indica) and Karanja(Pongamia glabra) are grinded with rice washed water.

7. Gentle massage with cow’s ghee and rock salt for pain, heat and swelling of vrana.

Pindika sweda prayogas Leaves of Arishhtamanjari(Acalypha indica) Kalasaka(Murrya koennija) Uttama kanya(Pergularia extensa) Arka(Calotropis procera) Amlika(Tamarindus indica) Datura(Datura metal) Gandhara(Capparis spinosa) and Shigru(Moringa olfera) are grinded with rice washed water and mixed with buffalo dung. The boluses enclosed within a cloth are heated with rice washed water or cow’s urine in a closed earthen vessel and used for gentle massage on the swelling. The juice extracted from the above drugs is used for dhara and a paste can be used as external application.

Dharayogas

Chandana(Santalum album) is grinded and mixed with water is used for dhara. It is very effective to reduce complications due to Mandali bite.

Tikhapimbi(Trichosanthus tricuspidata), Sargheshta(Cardiospermum halicacabum), the root of Shatavari(Asparagus racemosa) grinded and mixed

With rice washed water is used for dhara to reduce swelling, pain, feeling of extreme heat and fatigue.
Thookkudhara

Here dhara pot is hanging on ropes above the body of patient. Dharadrava is poured slowly through the hole in the centre of the pot through a cotton wick. If leaves of Nimba (Azadirachta indica) are kept in the pot is very beneficial. Vriksharuha (Loranthus ingiflorus) which is on Karaskara (Strychnos nuxvomica), Chandana (Santalum album.), Shathavari (Asparagus racemosa), juice of Kumari (Aloe vera) leaves of Kusmanda (Benincasa hispida), Eranda (Ricinus communis) are grinded and mixed with water is used for dhara for reducing burning sensation, swelling, feeling of extreme heat etc.

DISCUSSION

The present paper includes various Yogas (medicines) used in Ayurveda for Viperbite management (Mandali sarp Dansh). All the constituents of these Yogas are easily available and having anti poisonous properties. The method of preparation and mode of administration of these Yogas is convenient. Blending these Yogas and treatment with anti snake venom may also be a good perceptive and question for the research in future.

CONCLUSION

The main objective of the present paper was to study the Ayurvedic management of mandali Sarp Dansh and establish a regime for the Mandali sarp Dansh as first aid measure.

After detailed retetical review following conclusion are evolved.

1 Viper snakes are venomous snakes and from their correlation with external morphology, signs and symptom after bite they are very much similar with Mandali sarp described in Ayurveda.

2 Ayurvedic management of sarp dansh can be divided in two parts one is daivavyapashrya and other is Yuktivyapshraya. Where former one includes the use of mantra chikitsa and later one various drugs, yogas, and shodhan procedures.

3 After this review we can establish the Ayurvedic regime for Mandali sarp Dansh (Viper bite) as a first aid measure.

4 Future study of these treatment and medicine (Yogas) for their constituent’s chemical composition and their pharmacological action may help to increase efficacy and authenticity.

REFERENCES:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of book</th>
<th>Editor/Author</th>
<th>Publisher</th>
<th>Edition &amp; Year</th>
</tr>
</thead>
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<tr>
<td>1</td>
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<td>Cheruklappruth Krishana Namboodri</td>
<td>Ullonar Mana Trust Venkaitangu Trissur</td>
<td>2006</td>
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Vagbhata's *Astang Hridayam*

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Reprint 2006

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Astang Samgraha of Vagbhta

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Abstract

Aim:
To evaluate the role of panchatikta ghrita kshira basti in Avascular Necrosis of head of femur

Objectives:
1. To evaluate the role and mechanism of action of Pancha tikta ghrita kshira basti in AVN.

Observation:
Follow up was taken after every week in Karma basti karma given to the patient for seven days. Observations were noted in the form of improvement in clinical parameters.

Conclusion:
Conclusion was drawn from above data.

Introduction:
Avascular necrosis is a rare entity. In which there is cellular death (necrosis) of bone components due to interruption of the blood supply. Without blood, the bone tissue dies and the bone collapses. If avascular necrosis involves the bones of a joint, it often leads to destruction of the joint articular surfaces.

The sites involved are femoral head, scaphoid bone, lunate bone, talus, lower 1/3 rd of tibia, rarely head of humerus. Out of these AVN of head of femur is commonly seen.

Exact etiology of this not known but the predisposing factors are, chemotherapy, alcoholism, excessive steroid use, post traumatic. Other rare causes are sickle cell anaemia, hypertension, vasculitis, arterial embolism and thrombosis, damage from radiation, bisphosphonates.

In this case study cause was found to be trauma after RTA and H/O fracture of neck of femur.

Treatment of this AVN depends upon the bone involved in it. But mostly its surgical medicinal treatment is hardly effective in improving patient’s condition. In case of upper limb usually limb shortening is done, and in case of lower limb reconstructive procedures are preferred.

In case of AVN of head of femur THR i.e. Total hip replacement is done but, THR's have a number of downsides including long recovery times and short life spans. Instead hip resurfacing or metal on metal (MOM) resurfacing is used now days. But these surgical procedures are costly affairs and in our country everyone can not afford it. Besides it does not replace the function of the joint to its original state, patients movements are restricted.

Thus in this case study alternative method for treating AVN was tried. It is not only very effective but also supported by the fundamentals and basic principals in Ayurveda. Thus it can prove as a ray of hope to the patients suffering from this and those not willing for surgery.

Materials and Methods Material Used:
Panchatikta bharad, Go-dugdha, Panchatikta Ghrita, Madhu, Glucerine syringe, Simple rubber catheter.(Ref Cha. Su. 28/27.)
Preparation Method:

Kshira-paka of panchatikta bharad was made by proportion Bharad : Go-dugdha : Water as 1 : 16 : 16. And it was boled till only milk remains. Then vastra galita kshira-paka was obtained. (Ref: Dravyaguna sangraha by Yadavji trikamji Acharya).

Then from this Pancha-tikta Ghrita-kshira basti was prepared from this by mixing the above contents in following sequence and quantity:

1. Madhu 10 ml
2. Panchatikta Ghrita 20 ml
3. Panchatikta Kshirapaka 100 ml.

(Ref Ah. Hru. Su. 19/45)

Then this basti was given to the patient by giving him left lateral position by using glycerine syringe and catheter.

Matra of basti was increased by 50ml every 3rd day till it was 250 ml then this matra was continued for the remaining days. As this was retained for 8 to 12 hrs and patient did not have any complaints.

Case Study

A male patient came to SOPD of age 37 year. OPD reg. no was 6378. With following complaints

C/O : Pain in both lower limbs & grion ....since 1 year
Both lower limb weakness ........since 1 year
Difficulty in walking ........since 1 year
Pain in lower abdomen ........since 1 year

H/O : h/o fall from two-wheeler 5-6 months back. There was no evidence of fracture.
P/M/H : H/O malaria and enteric fever 8 months back.
   No h/o DM/ HTN/ BA/ Kochs.
   No h/o any drug allergy.
P/S/H : No evidence of any major surgery.

Ashtavidha Parikshana:

- Nadi - 78/ min
- Shabda - spashta
- Mala - malavshthamba
- Sparsha - anushna-sheeta
- Mutra - prakrut
- Druka - prakruta
- Jivha - alpa-sama
- Aakruti - madhyam

O/E : Pulse: 78/ min
B.P: 130/70 mmhg
G.C: fair
P/A: tenderness in hypogastric region.

Strotas Parikshana:

Rasavaha Strotasa: Aruchi, daurbalya.
Asthivaha Strotasa: Asthi shoola (ubhaya vamkshana sandhi shoola)
L/E:
Numbness in both lower legs +++
SLRT: Rt: 65° Lt: 70°
Movements of B/L hip joint: flexion, extension, rotation – painful during walking and sitting.

Investigations:

MRI of B/L hip joint (done 8 months before starting treatment) showed
Features suggestive of Avascular Necrosis of B/L femoral heads. (Modified ficat’s grade 3 in Right side and Grade 2 on Left side).

Treatment given:

Aushadhi Chikitsa:
1) Hingvashtak Churna 3gm B.D. before food with warm water. (Initial 5 days for pachan)
2) Lakshadi Guggul 3 tablets BD after meals i.e. Vyanodan kal.
3) Asthimajjapachak Kwatha BD after food i.e. Vyanodan kal.

Panchakarma Chikitsa:
1) Sarvanga snehan swedan.
2) Panchatikta-Ghruta-Kshira Basti (starting from 100 ml to 250 ml) for 30 days i.e. karma basti krama.

Pathya-Apathya:

Patient was told to avoid his addiction of chewing tobacco, Viruddha ahara, also
vataprakopak ruksha ahar. He was advised to take intake of Godugdha everyday.

**Results:**

Rt Lower Limb:

<table>
<thead>
<tr>
<th>Follow up date</th>
<th>SLRT</th>
<th>Movements (Pain gradations)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flexion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-11-11</td>
<td>55°</td>
<td>+++</td>
</tr>
<tr>
<td>9-11-11</td>
<td>60°</td>
<td>+++</td>
</tr>
<tr>
<td>15-11-11</td>
<td>60°</td>
<td>+++</td>
</tr>
<tr>
<td>22-11-11</td>
<td>70°</td>
<td>+++</td>
</tr>
<tr>
<td>29-11-11</td>
<td>80°</td>
<td>+++</td>
</tr>
<tr>
<td>2-1-12</td>
<td>80°</td>
<td>+++</td>
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</tbody>
</table>

Along with this his limping while walking was completely relieved and he was able to walk without limping at least for 30 to 45 mins. According to the patient his complains were relieved satisfactorily and he had 70-80% relief.

Grade Evaluation for Joint movements:

Grade 1: No movement possible.

Grade 2: Movement by appropriate postural adjustment.

Grade 3: Movement against gravity but not against external resistance.

Grade 4: Movement against gravity and against some resistance.

Grade 5: Normal Movement.

**Discussion:**

Here in this patient trauma after bike accident was the hetu for asthivaha strotas dushti. As told by Acharya charaka ‘Asthnam cha ativighattanat’, this lead to Asthi-vaha strotas dushti. (Ref: Cha. Viman 5/17)

Thus Chikitsa for asthivaha strotas dushti was given i.e. Panchatikta Ghrita-Kshira Basti (Ref: Cha Su 28/27), thus lakshadi guggul was also given for asthi vruddhi at the necrosed bone site of femoral head. Asthi majjapachak yog (Ref: Cha Chi 3/202) was given for pachan and it also acts as vehicle and helps other contents of aoushadhi chikitsa to reach upto asthi dhatu.

Besides this according to Acharya Dalhana ‘Asthi-dhara kala’ is also called as ‘Purish-dhara kala’ which is situated in ‘Pakwashaya’. Thus basti given in Pakwashaya directly acts on Asthi-dhara-kala, ultimately leading to poshana of asthi dhatu. (Su sha. 4/16)

**Conclusion:**
Thus this was a genuine attempt to treat the patient of AVN with help of Ayurveda, which was successful in improving general condition of the patient without going for the surgery. He was able to carry his daily activities without botheration of his pain. This can be ray of hope on this path. This needs can be a research topic having positive angle, so more work can be done in this direction.

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Abstract

Ayurveda is a science which deals with life, where advantageous & disadvantageous as well as happy & unhappy state of life along with good & bad for life, its measurement & description of life itself is explained. Life span (Ayu) is continuation of consciousness; it is the act of keeping alive, Ayu is combination of body, sense organs, mind & soul.

The objectives are to maintain the health of healthy individual & to cure the diseases of patient. To fulfill the objectives of Ayurved, various samhitas are composed, which deals with anatomy, physiology, diagnosis of diseases and its treatment. The samhitas which have gain importance are Brihattrayee and Laghu trayee. This paper discusses about the description of ‘Atisthoulaya’ in Brihattrayee.

BRIHAT TRAYEE

Samhitas are included in bhirhattrayee are–1.CharakSamhita, 2. SushrutaSamhita, 3.Ashtang Hriday.

Atisthoulaya or Medoroga is known since ages as a disease or abnormal personality. The causative factors, pathogenesis, manifestation, complications etc. is described in texts. The details of it are discussed.

Keywords: Atisthoulaya, Medoroga, Brihatriyee

Description of “Atisthaulaya or Medoroga” in Brihatriyee

The description of Medoroga in ‘CharakaSamhita’:

1) Atisthaulaya is considered as Kaphajavyadhi. In Sutra sthana, adhyaya 201, ‘Maharogadhyay’, the description of “Nanatmajavikar” of three doshas is found, ‘Atisthaulya’ is one of the ‘nanatmajavikar’ of Kaphadosha.

2) Very next chapter of Sutra Sthana, 21.’AstaninditiyaAdhyay’ in which Acharya Charaka has mentioned eight types of censurable or disagreeable personalities. This chapter has very detail description of Atisthaulya – causes, pathogenesis, clinical features, complications etc.

3) Atisthaulya is said to be ‘Atibrihan’ janyavyadhi, i.e. the disease which is caused by excessive Brihan or roboran therapy. The reference is therein Sutrasthana chapter 22. ‘Langhanabrihanadhyay’.

When the brihan or roboran therapy is properly administered, there is increase in strength; improvement in quality of dhatu, thinness is no more present. But when the therapy is in excess Atisthaulya develops.

4) Sutrasthana chapter – 23. ‘SantarpaniyaAdhyay’ Acharya Charaka has stated Atisthaulya as Santarpanyaadhyay.

5) In Sutrasthana 28 chapter, ‘Vividhashetapitiyadhyay’ ‘Atisthaulya’ is mentioned as dusitamedojavyadhi, disease caused by vitiation of medodhatu, referred to chapter- 21, 8 censurable personalities &Prodormal symptoms of prameha.

6) In Sharirsthana 8th chapter- ‘Jatisutriyadhyay’, the factors & measures to be taken for the birth of
excellent progeny are mentioned. In same chapter, factors which may be harmful for the baby during pregnancy are also mentioned. By regular and excessive intake of madhuraahara by the mother, during pregnancy, results in offspring having tendency to develop ‘Atisthaulya’ and prameha.

The description of Sthaulayain ‘SushrutSamhita’:
1) AcharayaSushruta in Sutrasthana chapter 15, ‘Doshadhatumalakshayavridhidiviniya adhyay’ has discussed about the details of dosha, dhatu, mala. In this chapter while discussing about the importance of rasadhatu, which is formed by the digestion of food, Sushruta states that ahararasa is the factor which is responsible for Sthaualaya and Karshya. The details about the causes of ‘Sthaulaya’, its pathogenesis, clinical features, complications and its treatment is described in the same chapter.

2) In Sutrasthana 24th chapter ‘Vyadhisamudasthayaadhyay’, classification of various diseases is discussed, in that chapter dhatudustijanyavikaras are mentioned. Atisthaulaya is one of the Medodhatudustijanyavyadhi,

The description of Atishthaualayain ‘AstangaHridayaSamhita’:
1) In AstangaHridayaSamhita Sutra sthana Chapter 14, ‘Dwividhopkramaniyaadhyay’, two types of upakramas for treating diseases is mentioned i.e. Santarpana and Apatarpana. Atishthaualaya is one of the complications of excess of SantarpanChikitsa. The treatment of Atishthaualaya is also discussed in the same chapter.

2) In chapter 3, of SharirSthana, ‘AngavibhagaSharir’, while discussing about ‘Sukhapaattrasharir’, AcharyaVagbhatta has described Atishthaualaya as abnormal body composition or one of the abnormal personalities. As it is said to be abnormal one, the person who is suffering from Atishthaualaya cannot live long and healthy life.

Etiological factors, pathogenesis, clinical features and complications of Atishthaualaya

CharakSamhita, Sutra sthana chapter 21, discusses the details of Atishthaualaya is studied here.

A person who has excessive increase of fat and muscles upto the extent that the hips, abdomen and breast becomes pendulous, there is lack of enthusiasm, and disturbed metabolism is termed as “Atishthaula”.

Etiological factors:

Aharahetu: intake of excessive quantity of food, intake of guru, sheeta, sneeghdagunatmaka food, and excessive madhura rasa food is responsible for sthaulaya.

Viharahetu: lack of physical exercise, abstinence from sexual intercourse, sleeping during day time.

Psychological causes: uninterrupted cheerfulness, lack of mental exercise.

Other causes: bijaswabhava i.e. hereditary, chromosomal/ genetic abnormalities leading to obesity.

Asthadoshas/ eight defects or deficits of Atishthaualaya are as follows:

- Reduced lifespan
- Difficulty in breathing
- Find difficult to indulge in sexual intercourse
- Weakness
- Body odour
- Excessive sweating
- Increased appetite
**Increased thirst**

*The explanation regarding the astadoshas of medoroga is as follows:*

By hetusevan i.e. guru-madhuraahara intake leads to nourishment of medadhatu only, rest of the dhatus remain malnourished that’s why the life span is reduced. There is looseness and delicacy of the body, as the medas is heavy and the deposition of fat causes heaviness which makes breathing difficult, also the body movements are swift. Sukradhatu is scanty and the channels are blocked by the medas making sexual intercourse difficult. As only medodhatu is well nourished and other dhatus remain undernourished and generalized weakness is present. Medodhatudusti leads to excessive sweating and body odour. Medodhatu and kaphadosha has similar properties of being ‘Vishandi’, heavy than other dhatus and are excess in quantity, makes body heavy and the physical strength is less. There is feeling of distress when sweating occurs. Digestive fire is good and vayu is in excessive quantity, causes increase in appetite and thirst.

As the body channels are obstructed by medas, vayu circulates in kostha Pradash, further stimulating the digestive power and the food ingested is quickly digested. If appropriate amount of food is not taken then the agni and vayu burns the body like the fire burns the forest. As a result of increase in fat, various complications may arise and person may die early.

**Views of AcharyaSushruta regarding Sthaulaya:**

**Etiology:**

Shlesmal food i.e. with the properties responsible to increase kapha, excess quantity of food intake, lack of physical exercise, habit of sleeping during day time causes excess of madhura- snigdhaahara rasa formation. The ahara rasa in turn increases body fat which leads to Atisthualaya.

When person becomes excessively Sthula clinical features develop are:

- Shortness of breath
- Excessive thirst
- Increased appetite
- Sleepiness
- Excessive sweating
- Body odor
- Sudden apnea
- Body pain or lassitude
- Body becomes delicate, so the physical activity is decreased
- Blockage of Sukravahastrotas by kapha and medas causes difficulty in sexual intercourse.
- Medodhatu is nourished and the rest of dhatus remain malnourished because of which immunity is decreased and life span is reduced.

**Complications of Atisthualaya:**

Reduced immunity leads to prameha, pramehapidika, Jwara, bhagandara, vidradhi and vatavyadhi in atisthualya person. These complications are severe in nature.

The details of causes, pathogenesis, clinical features, complications etc are not described in “AstangaHridaya.”

**The treatment for Medoroga is described in “Brihatrayee”**

The treatment of Medoroga is mentioned in CharakaSamhita at various places. The details are discussed here.
Yavagu or soups made up of roasted cereals added with honey, helps in weight reduction.

The person who wants to get rid of medoroga should indulge in remaining awake, sexual act, physical and mental exercises.

For reducing sthulata of person following prescriptions are suggested by Charaka:

- Diets and drinks pacifying vata and kapha and which can reduce fat.
- Enema with drugs that are sharp, ununctuous and hot in nature.
- Unction with ununctuous drugs.
- Powders of guduchi, musta, and triphalashould be advised to take.
- Takraarista administration is advised.
- Honey intake is suggested.
- Vidanga, nagara, yavakshara, black iron powder along with honey and powder of yava and amalakiis to be given.
- Bilwapanchamulawith honey
- Shilajit formulations
- Agnimanthajuiceshouldbe administered.
- Intake of prashatika, priyangu, shayamaka, yavaka, junarva, kodrava, mudga, kullatha, chakramudgaka, adhaki, patola, amalaki as food items along with honey water.
- Arishtawhich help to reduce fat, muscles and kaphamaybe advised to drink after food.

The principle of treatment and treatment advised for medoroga, mentioned in Astanga Hridaya:

Food which is heavy to digest should be given in fewer amounts to the patient of suffering from Medoroga to get rid of it. Patient should be advised to have various preparation made up of wheat and barley.

Medicinal preparations advised for Medoroga are as follows:

Medicines, food and regimen which are helpful in pacification of viatiated medas, vayu and shleshma are advised for the patient of medoroga. Kulathachurna, shayamaka, yava, mudga, honey water, curd water in food, mental exercises, body purification should be done, remaining vigil is advised. Triphalachurna along with honey, guduchi swarasa with haradachurna mixed with honey should be taken.

Rasanjana, brihatapanchamula, guggulu, sheelajitu preparations along with agnimanthakwatha are prescribed for long time.

Vidangadi yoga: vidanga, sunthi, kshara, kalalohabhasma, yava, amalakichurna in similar proportions are to be taken along with honey.

Vyoshadi yoga is a special preparation advised by Vagbhatta for the treatment of diseases caused by Santarpanamedoroga being one of them.
Vyoshadi yoga contents are as follows:-

Sunthi, maricha, pippali, kutaki, harada, behada, shigrubija, vidanga, ativisha, shalaparni, hingu, saurchalalavana, ajaji. Yavani, dhanakya, chitraka, daruharidra, brahati,

Summary and Conclusion:

Samanya is concomitance or state of generality or similarity which is responsible for augmentation of all the beings when two characters have same characteristics, whereas variant (vishesh) is responsible for diminution.

1. Dravyasamanya or identical substances. Eg: Intake of Mamsa is responsible for nourishing mamsadhatu in body.

2. Gunasamanya or substances having similar properties that of dhatus will improve the quality of that dhatu. Eg: Intake of milk, ghee improves sukradhatu properties.

3. Karma samanya or identical actions. Eg: Sleeping during daytime increases the kapadosha in the body.

One or the other or all the three aspects of ahara-vihara contributes to the increase of dhatu of similar properties inside the body.

In Medorogamedo-mamsadhatu is markedly increase than other dhatus. Excessive intake of madhura-sneegdhaahara during pregnancy, results in Sthaulata in the offspring.

Another factor which plays role in medoroga is ‘Bijaswabhava’ or genetic abnormalities, person grows fat even with normal or subnormal diet.

By the intake of food items like madhura, guru, sneegdha in nature, ahara rasa formed after digestion of food is also madhura-sneegdha which causes increase of medodhatu inside the body. As the food have properties similar to medodhatu, only medodhatu increases and rest of dhatu remain undernourished.

When the state of Jatharagni is hyperfunctioning, it is able to digest more amount of food converting it into ahararasa; the dhatvagni of meda is also hyperfunctioning leading to increase of medodhatu.

MedorogaSamprapti can be explained as follows.

AharaMadhura, Guru, Sneegdha

ViharaDivaswapna, Avyayam

OtherBijaswabhava

Kaphadosha

Atimadhura-

Atisneegdhaahararasa

Circulates all over body

Hyperfunctioning of Medodhatvagni

Medodhatu

Accumulation of Medas over hips, abdomen & breast

ATISTHAULAYA

Disabilities with Sthaulaya as per Charaka:

Ayushorhasa: Only medodhatu is nourished, rest of dhatus remains undernourished, so there is weakness. The
body channels get obstructed by medas, the physical strength is less, and all these factors affect the longevity.

**Javoparadha:** As the body becomes heavy because of excess deposition of medas, the movements are swift or are hampered causing easy fatigue.

**Krichavyavaya:** Difficulty in performing sexual act due obstruction of genital passages by medas and kapha, there is paucity of semen.

**Daurbalaya:** Whatever food taken is converted into medas and only medodhatu is nourished, disturbing the equilibrium of the dhatus, causing weakness.

**Swedabadha & Dourgandhya:** Excess of sweating occurs as sweat is mala of medodhatu, which is in excess and vitiating in Medoroga. That’s why person cannot tolerate physical strain, sweats a lot causing body odour.

**Kshudhaatimatram:** The body channels get obstructed by medas, so the vayu circulates in udara Pradesh, stimulating the Agni, thus person is bound to eat more and more food.

**Pipasaatiyoga:** Vitiated medas and vayu stimulates thirst.

Langhanadravyas advised in Medoroga have following properties-

Laghudravyas are vayu – Agnigunapradhana, which improves the state of Agni & help in metabolism of body fat & does not cause any dosha vitiation.

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