KERALA AYURVEDA VAIDYAM

A JOURNAL ON EVOLVING AYURVEDA

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wellness, naturally

VOL. 2 ISSUE 2
April - September 2009



JAUNDICE (KAAMALAA)

IRON DEFICIENCY ANEMIA AND ANNABEDI

MANAGEMENT OF METABOLIC DISEASES

SOUL - THE SOLE?

MULTIPLE SCLEROSIS

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Ayurvedaacharya Vaidyan
KGK Panicker
Founder of Kerala Ayurveda Limited

आचार्यः सर्वचेष्टासु लोक एव हि धीमतः।
अनुकुर्यात्तमेवातो लौकिकेऽर्थे परीक्षकः।।
(अ.हृ.सू.२.४५)

For the wise the world itself is the preceptor for all actions. Hence, the examiner of mundane objects may follow the world itself.

(A.H.Soo.2.45)

[One who is following the pursuit of worldly wellbeing, i.e., the attainment of the goals of life, shall copy the ways and means of the world. The examiner here is one who accepts the virtues and rejects the vices.]

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ROLE OF KVAATHA AND UTTARA-VASTI IN THE MANAGEMENT OF MOOTRAGHAATA WITH SPECIAL REFERENCE TO BPH

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GENERAL INTRODUCTION

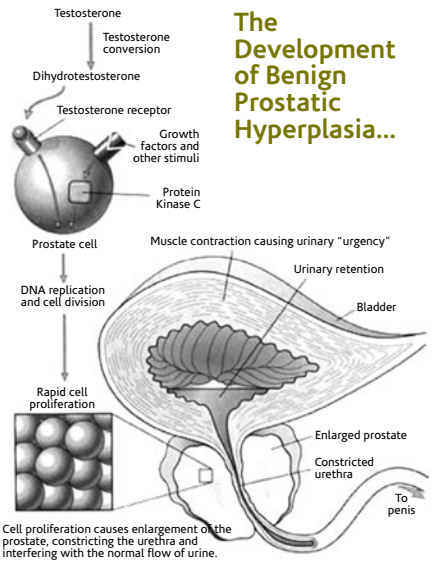
The earliest description of the afflictions of urinary track can be traced, as far back to Atharva Veda is no wonder. A comprehensive description regarding retention of urine (*mootraaghaata*) and its treatment with the use of a metal probe (*loha- s̲alaakaa*) give us an account of the knowledge that our ancestors had with regards to the anatomical, physiological, pathological and therapeutic aspects of human body (Ath. V. 1-13/6-9).

Ayurveda describes in detail, the diseases of the urinary tract. Aacaarya Vaagbhat̲a has classically divided diseases of urinary system into two categories viz. diseases with excessive urination and diseases of obstructed urination. The disease under discussion falls under the second category.

The symptom complex of dysuria (*mootrakr̲cchra*) and retention of urine (*mootraaghaata*) seems to be overlapping. But Acaarya Dalhan̲a, Cakrapaan̲i and Vijayarakshita have demarcated the difference between them. These two conditions have been differentiated on the basis of intensity of obstruction (*vibandha*) and retention (*avarodha*), which is more pronounced in retention of urine. Hence, it may be derived that mootraghaata is a condition in consequence of some kind of obstructive uropathy either mechanical or functional including partial or complete retention of urine as well as oliguria or anuria.

The entity *mootraaghaata* has been taken in context to BPH as both these conditions possess obstructive and irritative symptoms. The pathology of BPH is not yet clearly understood.

Prostatectomy is primary approach to BPH accounts 38% of all the major urological surgery in USA and is second most common surgery amongst



The Development of Benign Prostatic Hyperplasia...

Medicare recipients. But it is not devoid of complications, which may be Early complications (paralytic ileus, hemorrhage, clot retention etc.) and Late complications (re-growth, urethral stricture, infection etc.) Hence pharmacological therapies may offer significant improvement in the patients of BPH. Thus this has provided a launch pad for the present study.

Mootraaghaata, a clinical entity predominated by the symptom of *aaghaata* (either suppression or obstruction) to the outflow of urine due to vitiated vaayu has been extensively described by all the seers. In this study decoction (*kvaatha*) and urethral enema (*uttara-vasti*) have been selected and the schedule is as under-mentioned.

1. *Devadaarvaadi Kvaatha* 40 ml B.D. for 30 days (A.H.Ci. 11. 36)

2. *Das̲amoola taila Uttara-vasti* 30 – 50 ml per day for 15 days in two sittings.

CLINICAL STUDY

AIMS AND OBJECTIVES

1. To analyze different varieties of retentions of urine and to define in context to BPH

2. To evaluate clinical efficacy of *kvaatha* and *uttara-vasti* in *mootraaghaata*.

3. To provide an alternate therapeutic principle to the sufferers of *mootraaghaata* through cost effective and less complicated procedure.

4. To standardize the *uttara-vasti* procedure.

MATERIALS AND METHODS

Materials were provided by I.P.G.T and R.A., Jamnagar where the study was conducted. The patients attending urology section of *Salya-saalaakya* dept. of the institute were randomly selected irrespective of race, religion, occupation etc. fulfilling the criteria of selection. The patients were diagnosed on the basis of both subjective and objective criteria of *mootraaghaata* and BPH. Some patients with greater degree of Bladder Outlet Obstruction, Acute Retention requiring catheterization and those with impending urinary tract affections were excluded from the study.

PLAN OF WORK

1. Thorough History, General and systemic examination.The International Prostate Symptom Score sheet based on the American Urologist Symptom Score Sheet is used to assess the Subjective complaints.

2. Investigations:-

a) Digital and USG examination of prostate.

b) USG scanning for residual urine volume.

c) Urine flow rate measurement.

d) Routine heamatological and related biochemical investigations.

3. Treatment schedule:-

Devadaarvaadi kashaaya and *Dasamoola sidha Taila uttara-vasti* in phases along with a specific pathya regimen based on Bh.Ratnaavali *Mootraaghaata Adhikaara*.

CRITERIA FOR ASSESSMENT

The effect of the therapy has been assessed in two phases.

1. After completion of *kvaatha* therapy

2. After *uttara-vasti* schedule. Assessment was on the basis of improvement of symptomatology of *mootraaghaata*/ BPH based on IPSS of AUA.

Results have been discussed and analyzed on subjective and objective parameters.

a) Subjective parameters

TOTAL EFFECT OF THERAPY

Signs and symptoms	After KT (%)	After UB (%)
Sensation of incomplete evacuation	53	84.49
Frequency	53	89.45
Intermittency	47.43	89
Urgency	42.61	87
Nocturia	20.28	67
Dysuria	100	100
Hematuria	100	100
Weak urine stream	42.94	85
Burning micturition	93	100
Constipation	100	100

1. Complete relief- 100% regression of prostate and 100% improvement in urine flow rate and residual urine volume

2. Marked improvement- more than 50% improvement in residual urine volume and urine flow rate and other investigations irrespective/ respective to the regression of enlarged prostate.

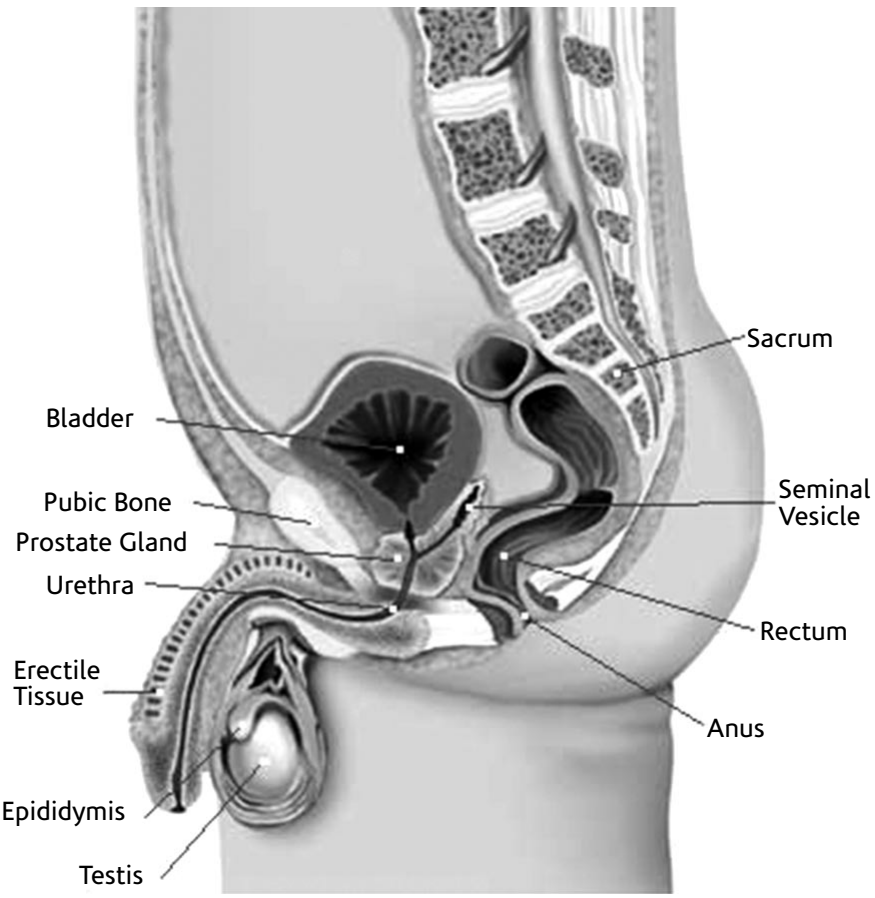
3. Improvement- 25-50% improvement in residual urine volume, urine flow rate and other investigations irrespective/respective to the regression

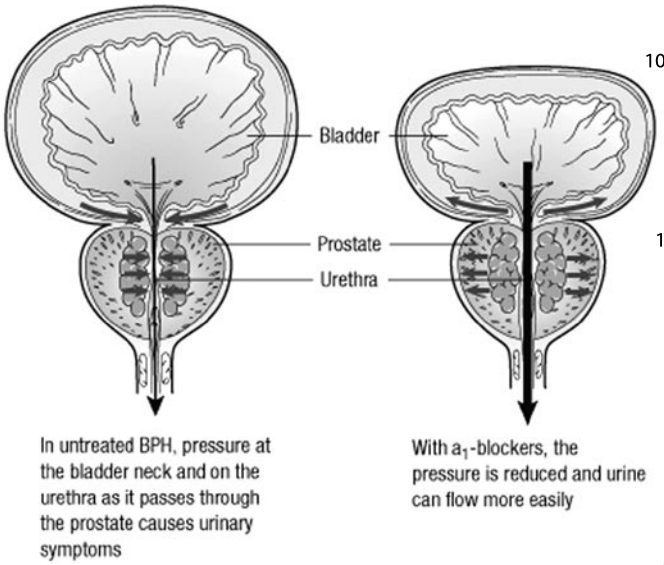
4. Unchanged- up to 25% improvement in residual urine volume, urine flow rate and other investigations irrespective/respective to the regression

OBSERVATIONS

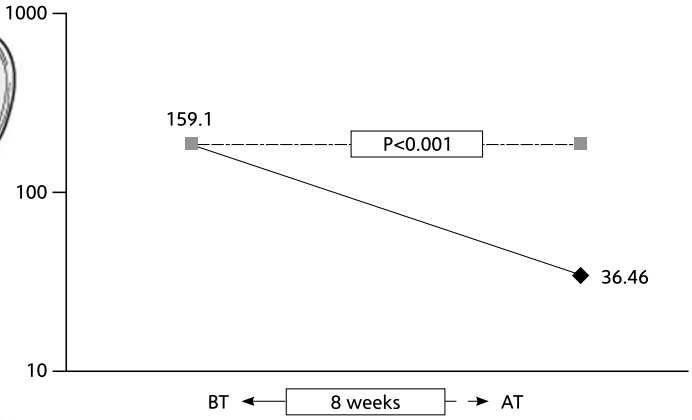
15 patients completed the treatment schedule. The observations are presented here.

- 66.67% patients were in the age group between 61-70 years.
- 93% patients were married.
- 86% patients belonged socio-economically to the middle class.

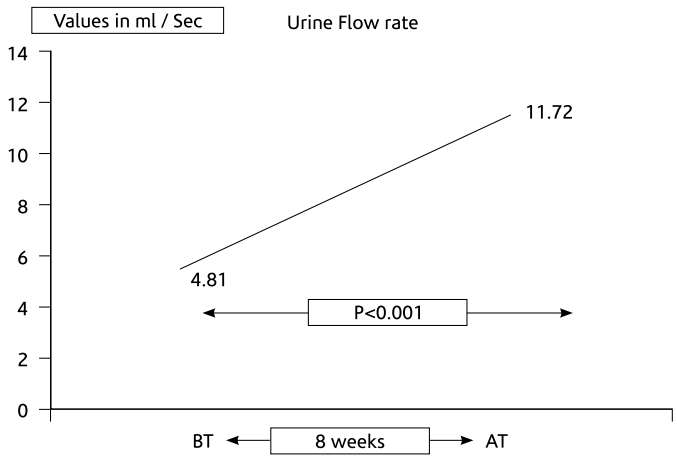




Effect of Devadaarvaadi kvaatha & Dasamoola siddha taila uttara-vasti on Residual Urine Volume.



Effect of Devadaarvaadi kvaatha & Dasamoola siddha taila uttara-vasti on Urine Flow Rate.



- All patients were having irregular bowel habits and disturbed sleep patterns.
- 53.33% patients were of vaata-pitta and 33.33% were of vaata-kapha constitution
- 46% patients were 6months-1 year chronic
- All the patients were having sensation of incomplete voiding, dysuria, hesitancy, weak urinary stream, nocturia, urgency, burning micturition and constipation. Only 33% patients complaint of hematuria
- 73% patients were having UTI and piles and 40% suffered from hypertension.

PROSTATIC FINDINGS OF 15 PATIENTS OF BPH:-

- 73%patients were having enlargement in both lateral lobes.
- 67% patients were having moderate enlargement.
- In 93% patients prostate was oval in shape.
- All the prostate were of smooth surface.
- Rectal mucosa was free and no tenderness was present in any of the patients.
- Effect of therapy on residual urine volume is 81.76%.
- Urine flow rate improved by 46.70%
- The therapy showed mild to moderate regression in the size of prostate.

CONCLUSION

This is a disease of ageing males. The religion, education, marital status, socio-economic status, habitat, occupation etc. are not related to the incidence of the disease. Predominance of Vaata in constitutional type may be related with susceptibility to the disease. Residual urine volume and urine flow rate assessment confirms de-compensated bladder function. Miraculous decrease in residual urine volume and increase in urine flow rate were observed after *uttara-vasti* schedule. Total effect of therapy has provided considerably highly significant relief on the subjective as well as objective parameters. This reveals that combined approach of oral medication with *uttara-vasti* is definitely having effect over the symptamatology of *mootraaghaata* – BPH and hence could provide an alternative for existing modalities of management of *mootraaghaata*.

SOUL - THE SOLE?



Dr. C. R. Agnives
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Agnivesa, one among the six disciples of Aatreya Punarvasu and the author of Agnivesa-tantra, the prototype of the present Caraka-samhitaa, asks twenty three questions to his revered guru regarding the person (*purusha*). This is recorded in the first chapter of the part on body (*saareera-sthaana*) of Caraka-samhitaa. It is interesting to note that the treatise is mostly written in question answer fashion where the guru Aatreya Punarvasu answers the questions of his prime disciple Agnivesa. Even after later redactions by Caraka and Drdhabala, the questions of Agnivesa are preserved in the treatise. In Ancient India, scientific books were written to quench the quest of students and most of the treatises naturally are dictated by gurus as answer to the questions of students. The students recorded these lectures and compiled them to treatises. Agnivesa-tantra is the first book on general medicine (*kaaya-cikitsaa*). This was later elaborated by Caraka and added on by Drdhabala. Hence we are unable to exactly locate which author composed any particular portion of the treatise. Yet it is reasonable to conclude that it was Caraka who wrote the chapter considered here. He might have kept the question answer fashion to dramatize the text. Perhaps the questions posed here might have originated in the mind of Caraka and to make them authentic he might have attributed them to the earlier author. We are unable to verify this as Agnivesa-tantra is no more available even in part.

The first and foremost question posed in the chapter is "how many components are there in a person?" Though Agnivesa implies that he should get a decisive answer by addressing his preceptor as the intelligent (*dheeman*) in the context the guru is providing three optional answers. [*dhee* or *buddhi* means decisive knowledge]. Why the questioner required a decisive answer in this case when the first chapter of the first part of treatise has clearly stated that there are three components in the treatable person or living thing viz. the body (*sareera*), mind (*satva*) and soul *(aatman*)? [C.Soo.1.46,47]. But the same chapter has considered four components of life (*aayus*) by splitting the body composed of five existents (*panca-bhoota*) into two viz. the body proper (*sareera*) and the faculties (*indriya*). [C.Soo.42]. Yet it is not the reason for posing the question. Whether it is four components or three components, the components of the person do not differ as one part is the five existents and the other two parts namely mind and soul are not materials.

To the question of Agnivesa, the three answers of Aatreya do not consider the above three or four components. The answers are – 1) The person has six components namely the five elements and the sentient (*cetanaa*) 2) The sentient alone and 3) 24 components viz. the mind, 10 faculties, five sense objects and the nature with eight components. Why there are three answers to one question? Each answer is from a different philosophy.

According to the Vaiseshika philosophy living body may be considered as having six components viz. the five existents and the sentient. The sentient is the common name for the union of soul and mind. Soul is the pure sentient whereas mind is the inert end of the sentient working as a tool of the sentient to communicate with the inert body. According to dynamics a



dynamic thing in contact of an inert thing also will be inert. That is why the friction of the brake pads on the wheel drum stops the rotating wheel. The consideration that person is composed of six components is met with in Susruta-samhitaa too. In its opening chapter the treatise states that in this science the person is the inherence (*samavaaya*) of the five gross existents (*panca-mahaa-bhoota*) and the sentient (*sareeri*). [S.Soo.1.22].

The second answer is based on monism the branch of Vedanta philosophy stating that everything is one, the Absolute or Brahman. Though mentioned as an answer, this theory cannot be adopted by Ayurveda as it does not permit analysis. Analysis and synthesis are two methods of science and study and Ayurveda being a medical science cannot ward off analytical study even though it insists on a holistic approach. During the period of Caraka, Vedanta and monism had its strong hold among Indian elite though its further spread and popularity was by the efforts of Sri Sankara. The basic treatise on Vedanta is Brahma-sootra composed by Baadaraayana. The period of Baadaraayana roughly coincides with that of Caraka and hence it is reasonable to think that this reference is by the influence of monistic Vedanta. Of all the six orthodox phlosophies of India, Vedanta or Later discourse (Uttara-meemamsa) philosophy has the least influence on Ayurveda though presently it is considered as the best form of Indian philosophy. This is mainly because Vedanta is mostly ideological intellectual exercise whereas Ayurveda is a pragmatic applied science. Ayurveda clearly states that when we consider that everything is one or infinite science cannot function.

> Agnivesa-tantra is the first book on general medicine (*kaaya-cikitsaa*). This was later elaborated by Caraka and added on by Drdhabala. Hence we are unable to exactly locate which author composed any particular portion of the treatise. Yet it is reasonable to conclude that it was Caraka who wrote the chapter considered here.

The third answer is based on Saamkhya philosophy. This philosophy has two versions – the old and new. The answer is on the lines of the old version. According to the old Saamkhya of Kapila there are 24 principles in cosmogony. The same principles are considered as components of person. The system holds that the primordial nature or the non-manifested abstract substance (*avyakta*) itself is the absolute in the person. Person is considered as the aggregate of 24 principles (*raasi-purusha*) and not as a component. Later Saamkhya was revised by considering the absolute person and adding the new principle to the list of principles making a total of 25. This concept is not seen in Ayurveda.

Of the three answers the theory accepted by Caraka-samhitaa seems to be the third one following ancient Saamkhya. This can be comprehended from two factors.

1) When a treatise states a different theory following the expression of one theory, the second theory is more valid. Here there are three theories in a sequence. The second theory thus cancels the first theory and the third theory cancels the second theory. Hence only the third theory will stand as valid. This can be easily understood from a very common example. If A is telling three things in succession and in contrary to former statements to B, naturally only the last statement is taken as valid. See the example of three statements a) Go to the market now b) Don't go now c) Go to the play ground. Naturally the listener should go to the play ground as it was the last statement

2) Caraka-samhitaa details only the third theory. Detailing of other theories is not done here. This means the theory of aggregate person of 24 principles is acceptable to the treatise.

The above descriptions are given here to identify the concept of self in Ayurveda.

In the past, before starting studies of Ayurveda, the student completes the study of Sanskrit and philosophies. There is substantial conceptual difference in the concept of absolute in various philosophies of India. This confuses the student of Ayurveda who is previously instructed and informed of the Self. This necessitates clarification about the concept of Self in Ayurveda differentiating it from concepts prevalent contemporarily. Hence the question and answers. Why Aatreya provides three answers when asked to provide a decisive answer? It is the Ayurvedic style to accept anything if it is not totally objectionable. Hence Aatreya provisionally accepts three strong theories in the matter and implies his favor indirectly. That is all. The student who is aware of the Ayurvedic methodology could naturally arrive at his conclusion by getting the gist.



JAUNDICE
(*KAAMALAA*)



Padmasree Dr. K.Rajagopalan MBBS, DAM, FAIM.

[Excerpts from the discussion with Dr. K.Rajagopalan on 5-5-2009 at Kerala Ayurveda Hospital, Aluva.]

Saastra mathanam (churning of science) is a discussion program conducted at Kerala Ayurveda Hospital, Aluva on all Tuesday afternoons except the third Tuesdays. Padmasree Dr. K.Rajagopalan MBBS, DAM, FAIM is leading the discussions. Doctors of KAH and nearby KAL outlets participate in the discussions. Dr.K.Anilkumar, Executive Director, KAL, Dr. C.R.Agnives, Chief Editor, Kerala Ayurveda Vaidyam, Dr. C.I. Jolly, Scientific advisor R&D, KAL, Dr. Sarala Samuel, Senior Manager R&D, KAL, and Dr. Jacob Jayan Lecturer in General Medicine, Medical College, Alappuzha, regularly participate in the discussions. Usually a clinical topic is taken for the discussions. The program is recorded and minutes are prepared. The minutes are e-mailed to all doctors of KAL allover the world. The program is coordinated by Dr. K. Sasidharan, Medical Superintendent, KAL, with the assistance of Dr.Dulari Manikkath, Medical Officer KAL.The discussions are mainly intended to bring out the spirit of our scriptures and document the valuable experience and insights of Dr.K.Rajagopalan. The participants are free to express their views and clear their doubts. There is a phone-in facility and Doctors of KAL elsewhere can participate in the program. Caraka Samhitaa considers discussions and debates of doctors as a means of enriching scientific knowledge. (C.Vi.8.)

Objectives:

Presentation and interpretation of clinical and other relevant current topics to bridge the gap between modern science and Ayurveda.

Sharing and exchanging of clinical experiences of Medical Officers and creating a pool of knowledge

To carry this forum to an intellectual plane.

Documentation, storage, retrieval and publishing of the topics presented

To involve the like minded fraternity from Ayurveda as well as from other disciplines outside Kerala Ayurveda.

To develop a Centre for Knowledge Nurture and Creation (CKNC) in different topics related to Ayurveda which could be made known in and abroad.

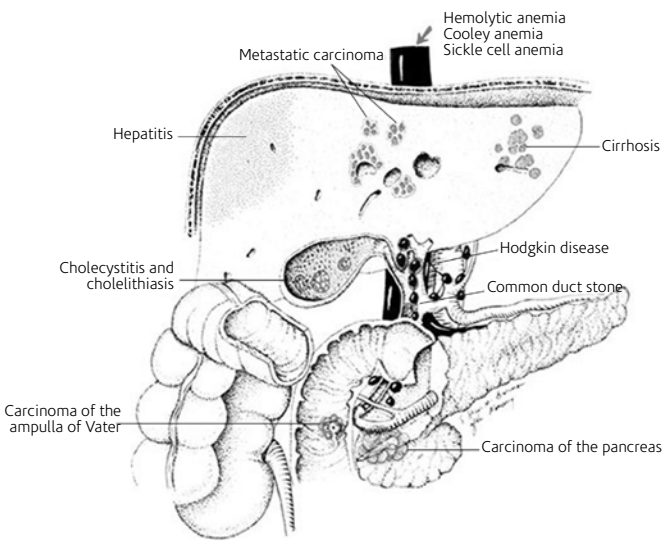
The term jaundice is coined from the Greek root *'jaunis'* meaning yellow color is indicative of the color of the patient. The Sanskrit term *kaamalaa* is not indicative of color. The Sanskrit etymology is *kaamam laati iti kaamalaa*. It means that the disease deprives the patient off his desires. This is indicative of the general condition of the patient. The jaundice patient has no appetite, hunger. He is not desirous of anything. He does not want to do anything.

The first part of the description of the disease in Ashtaanga Hrdaya is about hemolytic jaundice. Discoloration of discharges is a feature of this condition – urine and stools will be red. According to Ayurveda *kaamalaa* can manifest in two ways – 1) When an anemic patient is consuming substances that aggravate pitta (A.H.Ni.13.15) 2) Without the back drop of anemia (A.H.Ni.13.17.)

> In North India, Arogyavardhini vatee is widely used for treating jaundice. The formulation is mentioned in the chapter on skin diseases of Rasa-ratna-samuccaya. It is indicated in all diseases but jaundice is not mentioned in the list of indications.

Kaamalaa may manifest also in two types according to the difference of pathogenesis (A.H.Ni.13. 16,17) – depending on G.I.T. (*koshthaasrta*) and jaundice depending on tissues (*saakhaasrta*). Hemolytic jaundice depends on GIT. Jaundice depending on tissues is obstructive. This is termed *rudha-patha-kaamalaa*. Obstructive jaundice is detailed in the therapeutic part of Ashtaanga-hrdaya (A.H. C. 16. 45). There are two types of obstructive jaundice – one with partial obstruction and the other with complete obstruction. The condition where the stool is like a paste of sesame seed (*tila-pishta-nibha*) i.e. grey, is due to partial obstruction. Due to complete obstruction of bile duct the stool will be pure white (A.H. C. 16. 45-48) as it contains no bilirubin or stercobilin.

The obstruction by kapha to bile duct may be of many causes – parasites,

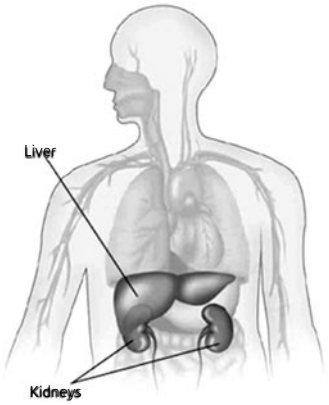


inflammation of the bile duct, tumor or anything that causes obstruction. Here kapha is to be understood as swelling (*sopha*). Here the treatment should be aimed at mitigating kapha and should be sharp (*teekshna*). It is mentioned that black pepper should be administered with lime juice. When the obstruction is removed milder drugs can be given. The color of feces is an index of removal of obstruction. In obstructive jaundice fever (*jvara*) is mentioned in Ayurveda. Here cholecystitis is to be suspected. Treatment should be in par with the type of the disease.

Bilirubin itself is of two types – conjugated and non-conjugated (free). Laboratory tests will ascertain these. There are controversies too regarding the accuracy and validity of these tests. LFT also may be resorted. In Ayurveda it is mentioned that jaundice may be secondary to various diseases. There are jaundices with or without fever. In fever due to excessive pitta the symptoms of jaundice are present.

Vaasaa-guloocyaadi kashaaya (A.H. C. 16. 13) can be administered in all types of jaundice. This decoction is useful in many diseases. The Picrorhiza (*katurohinee*)in it is an effective antioxidant. It is a usual ingredient of many liver tonics in market.

Single drugs are usually used in practice to treat jaundice. Some of them are mentioned in our treatises too. The juice/ decoction of any one of the following is to be administered with honey in every morning – the three myrobalans (*triphalaa*), Tinospora (*amrtaa*), tree-turmeric (*daarvee*), neem (*nimba*) (A.H. C. 16. 43). Single drugs such as the leaves of Portia tree (*poovaras, ceelaanti* – Mal.), tender leaves of castor tree (*Eranda-pallava*) Phylanthus niruri (*taamalakee*) are



> The differentiation of hepatitis A, B, C etc. are not in Ayurveda. There is no marked difference in treatment according to strain of virus. A disease may manifest from different causes and a cause may effect many diseases.

used in Kerala. The leaves of Portia tree, when yellow are boiled with water. This is used as drinking water. It is found that it will increase the platelet count temporarily. The result is not sustained. The cause of this is unknown. Studies should be conducted to unravel this phenomenon. The leaves of Portia tree are useful only in hemolytic jaundice.

In North India, *Arogyavardhini vati* is widely used for treating jaundice. The formulation is mentioned in the chapter on skin diseases of Rasa-ratna- samuccaya. It is indicated in all diseases but jaundice is not mentioned in the list of indications.

Administration of the fresh juice of Indian gooseberry (*aamalakee*) also is in practice. Here the calx of iron (*loha-bhasma*) may be added to the juice and exposed to sun (*bhaanu-paaka*) and administered. This is also found useful in the stomach-ache of children. Usually iron will increase or cause stomach-ache. But this preparation is palliating stomach-ache.

The *Draakshaadi Kashaaya* mentioned in vaata-pitta fever is very useful in *kaamalaa* (A.H.C.1.55-58). Since Jaundice is optionally indicated using the word *api*, it should be comprehended that it should not be used in obstructive jaundice.

Neonatal jaundice is also called physiological jaundice. This need not be considered as a disease as it is self-limiting and will subside within a few days. Nowadays It is suggested that the baby may be exposed to sunlight. Another grave condition of jaundice in the new born is the atresia of bile duct. It is fatal. Immediate surgery is warranted. The success rate of this surgery is very low.

Today liver tonics have high demand in the market. Many are pushed with unethical advertisements. The message passed down is that if you swallow the pill with alcohol, the bad effects of alcohol will not affect you as the pill will protect the liver. In Ayurveda it is mentioned that *Taleesaadi coornam, Elaadi coornam* or rejuvenating formulation is to be consumed before drinking alcohol. (A.H. C.7. 83) The effect of these should be studied. Here *hrdya* means benevolent to the heart. (*Hrdyam – hrdayaavayavaaya hitam*). This also is to be studied. *Vidaaryaadi kvaatha* is *hrdya*. But it is bitter. Hence the term *hrdya* always does not mean acceptability or fondness. *Taleesaadi coornam* is different. It is sweet.

The disease *haleemaka* (syn. *Lodhara* and *alasa*) mentioned in the context of *kaamalaa* is predominant in vaata-pitta. A medicated ghee prepared with the decoction of tinospora, milk and ghee of buffalo is suggested here. In *haleemaka* serious depletion of immunity (*ojo-naasa*) is occurring. This is an incurable disease. This disease cannot be correlated with any diseases mentioned in modern medicine. Yet we may attempt to correlate it with pernicious anemia. There neurological symtoms are prominent (A.H.N. 13. 18,19). Here libido is lost. Loss of mobility and strength etc. and mild fever are also encountered. *Kumbha-kaamalaa* may be correlated with cirrhosis of liver. In the context of polyuria (*prameha*) it is mentioned that turmeric yellow or red urine need not be always *prameha*. It may occur also in bleeding disorders (*rakta-pitta*). Hence *Kaamalaa* should be differentiated from rakta-pitta and haaridra-meha (A.H. N. 10. 37).

The differentiation of hepatitis A, B, C etc. are not in Ayurveda. There is no marked difference in treatment according to strain of virus. A disease may manifest from different causes and a cause may effect many diseases. (*Eko heturanekassya …*). Hence different viruses can cause jaundice. Research should be conducted to evaluate the treatments in specific viruses. We should not say that viruses are not there. According to the description in Atharva Veda, *Bhoota* means microbes and parasites in the body of people causing troubles to humans (*antarjana-sareero manushyopadrava-kaarino jantu-viseshaah eva bhootaah*). It includes viruses and bacteria.

MENOPAUSE: A BLISSFUL WAY THROUGH AYURVEDA



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Introduction- The term menopause is derived from Greek word *men* (month) and *pauo* (to stop). WHO and STRAW (Stages of Reproductive Aging Workshop) defined menopause as permanent cessation of menstrual periods that occur naturally or is induced by surgery, chemotherapy or radiation. Natural menopause is recognized after 12 consecutive months without menstrual periods that are not associated with a physiologic or pathologic cause[1]. Menopause is termed as *rajonivrutti* (retirement from menses) in Hindi language. It may not have been a disorder that affects women in ancient times, as ayurvedic text books don't mention any female reproductive disorder whose symptoms corresponds with menopause[2]. We can correlate menopause with aging process of body and as we know that vaata dosha is aggravated in old age and accordingly symtoms appear.

According to Susruta Samhitaa there are three stages in man/women's life, roughly described as childhood or infancy, middle age or youth and dotage or old age. During these periods kapha, pitta and vaata dosha increased respectively[3]. So it is considered to be vaata stage of life with some variable pitta signs. *Apaana vaata*, which governs the genito-urinary tract, elimination of waste products and menstruation is a key area to attend to , when preparing for menopause. The age at which menopause occurs is genetically predetermined and varies from 48-55 years of age with the average age being 51.4 years in United State of America[3]. If life expectancy on women approaching 80 years then an average 30 years of women's life is spent in post menopausal stage of life[3]. It is not an abrupt end to the menses. In late 30's or early 40's a change start to take place. Through out child bearing years women are bathed in a nurturing blend of hormones that keep contently taking care of their loved ones. This bathe of hormones begins to change or shift. Over a period of 5 to 13 years this change continues. This is period of menopausal transition or peri-menopause (climacteric). In addition to the hormonal shift that means an end of child bearing, our bodies and specifically our nervous system are being quite literally rewired[3]. After, final menstrual period of post-menopause begins.

Menopausal symptom is nature's wake up

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Menopausal symptom is nature's wake up call to let you know to need to start paying more attention on your health. The idea in west is to stop the symptom, stop the problem. But Ayurveda doesn't want to cover the symptoms. It wants to bring the body back in balance. The range of symptoms in *r̲ajonivrtti* is wide and they vary with each humor. Each constitution due to its own uniqueness, also expresses its own physiological and psychological symptomatology. The main symptoms of vaata are tingling and numbness in body, joint pain, anxiety, lack of concentration, vaginal dryness, insomnia, palpitation, restlessness, backache, fear, depression, confusion, mood swing and degeneration of cervical spine. The main symptoms of pitta are hot flushes, sweating, inability to adjust to warmth, irritability, anger, night sweats and digestive upset. It is also common for some women (kapha symptoms) to put on weight, sleepiness, edema in joints (especially in ankles) and lack of motivation, feeling heaviness and lethargy during menopause. Individual of each humoral constitution can experience a gradual or sudden onset of symptoms, all systems are involved including the nervous, cardiovascular locomotor and endocrine system[7].

TREATMENT OF MENOPAUSAL SYMPTOMS IN MODERN SCIENCE

In western countries hormone replacement therapy (HRT) seems to be answer of postmenopausal symptoms. Estrogen and Progestin are used most frequently to maintain 'womanhood'. Despite this androgen (Testosterone), Dehydroepiandrosterone (DHEA), Tibolone, Antidepressant and other medication like Clonidine, Gabapentine, Methyldopa

balance followed by restoring balance to other doshas, if needed. Vaata is balanced by establishing a regular routine, eating mainly warm, cooked, vaata reducing wholesome food, drinking plenty of fluids, performing daily massage (*abhyanga*) to calm nerve and sooth dry skin. Pitta can be balanced by chilling out nervous system through decreasing stimulation, never skipping meals, balance of rest and activity. Kapha is balanced by arising early each morning, weight control, exercise and reduced sweetness. According to Caraka Saṃhitaa all diseases occure due to the imbalance in *agni* and *agni* is the single most important factor in the buildup of *aama*. As a result the treatment of *aama* must always include the treatment of *agni* including the use of digestive herbs and spices, eating meals on schedule and elimination of cold foods and drinks. *Pancakarma* can also be utilized to eliminate *aama*.



> Digestive herbs like cumin, coriander and fennel can be advised to enhance digestion. Massage with coconut oil, yoga and regular exercise like walking should be performed as routine.

TREATMENT OF SPECIFIC SYMPTOMS

HOT FLUSHES

Hot Flushes or vasomotor flushing are the most common symptoms occurring about 70 to 85% of all perimenopausal women. Hot flushes are caused by samaana vaayu (sub dosha of vaata) fanning *agni* in an irregular manner. The heat suddenly rises and dissipates[■]. They are triggered by falling estrogen and rising FSH. Hot flushes tend to become frequent after menstruation actually stopped within 1 or 2 year after menopause. Besides hormonal changes external factors can influence the intensity and duration of the hot flushes[■].

Digestive herbs like cumin, coriander and fennel can be advised to enhance digestion. Massage with coconut oil, yoga and regular exercise like walking should be performed as routine. Key herbs are black cohosh (study shown benefit for vasomotor symptoms compared with conjugated estrogen)[■], *Asparagus racemosus* (*sataavari*)[■], Chaste berry (*Agnus castus*), red clover (*Trifolium partense*)[■],[■], and Ginseng[■] (*Pana ginseng*).

HEART DISEASE/ PALPITATION

To preserve *ojas* and maintain heart and vessels attached to it in good condition, factors which may lead to unhappiness (mental worries) should be avoided [■]. Most coronary heart diseases are of Kapha nature, reflecting oveweight, yet as pitta relates to the blood, heart disease, particularly hypertension is commonly a pitta disorder. Vaata type heart disease is most common in elderly, where there is drying out of the tissues and hardening of blood vessels[■].

Ensure the proper balance of humors to specific heart symptoms. Eat appropriate diet aggriable to the humors, low in unhealthy fats. Reduce stress in life and lower blood pressure through techniques such as meditation and yoga. Ensure adequate calcium and magnesium intake to help stabilize electrical conduction in the cardiac muscle and help relax smooth muscle in blood vessels. There should be adequate intake of antioxidant and vitamin intake including vitamin E, C, B and folic acid , decrease sodium and increase potassium in diet. Ensure adequate intake of omega-3 fatty acid. Flax seed is an excellent source of this. Key herbs are *Terminalia arjuna (arjun), Sida cordifolia (balaa), Commiphora mukul* (*guggulu*), *triphala, Withania somnifera* (*asvagandha*) and garlic (*Allium sativum*). Licorice (*Glycerrhiza glabra*) may be contraindicated if hypertension is present. For heart palpitation due to nervous anxiety combination of valerian, hawthorn berries, cinnamom (*Cinnamomum zeylanicum*) and *balaa* may be helpful.

OSTEOPOROSIS

In our culture many factors combine to cause the slow and silent onset of bone loss. In early stages it is usually asymptomatic called osteopaenia. Over time, a rate of approximately 1% per year beginning at about age 30 and approximately 2% per year during perimenopause and menopause, women's bones become ncreasingly porous, brittle and subject to fracture. Actually only 15% of total body bone mass on average is lost due to estrogen related factor. Roughly another 15% of the total average life time bone loss of about 30% is due to other factors[■]. Some of other factors are vaata body type, smoking, sedentary life style, history of amenorrhea associated with excessive exercise and/ or anorexia nervosa, drinking more than 25gm alcohol per day, over stressed liver, drinking more than 2 units of caffeine per day, clinically depressed, poor diet, premature menopause, regular use of steroid drugs, anticonvulsant medication, thyroid disorder. The current recommended

are also used.

In 2002 a study involving 17,000 postmenopausal women was abruptly halted when it became well publicized that estrogen plus progestin therapy actually increase the risk of breast cancer[8], dementia[9] and stroke[10]. Postmenopausal women with established heart disease (a condition previously thought to be aided by HRT) were not shown the benefit from HRT or ERT (estrogen replacement therapy) also[11]. Even if a women is not worried about the heart and cancer risks combine with HRT, there are other side effects including nausea, abdominal pain, irregular bleeding, breast tenderness, headache, mood changes and hair loss. Continued research from WHI (Women's Health Initiative) has shown that HRT does not elevate the quality of life[12] nor does it have any beneficial effect on the incidence of dementia or mild cognitive impairment in postmenopausal[9] period. Androgens may cause acne, hirsutism and weight gain. Adverse effects of tibolone include pain, weight gain and headache. Antidepressants may cause diminished libido, insomnia, headache and nausea. Likewise clonidine was associated with greater difficulty in sleeping.

The mounting evidence against the use of HRT is sufficient motivation for the medical world to seek a safe alternative. Phytoestrogen and other ayurvedic herbs are the answer to this.

Phytoestrogen - The promising benefits of natural alternative is not folklore; in Japan, where women eat a diet high in phytoestrogen, HRT usage is 6%, compared to 46% of menopausal women in the United State[13]. There are two main classes of phytoestrogen. A- Isoflavones (found in plants such as soy and red clover), B- Lignans (found in flax). Phytostrogen (isoflavons) are thought to increase level of sex hormone binding globulin (SHBG), which is regarded as favorable for protection against breast cancer and coronary heart disease in women[14].

MANAGEMENT OF MENOPAUSAL SYMPTOMS THROUGH AYURVEDA

The main principle of treatment is to calm any disturbances of *doshas*. This means cool any heat, calm any anxiety and moisten any dryness, nourish the deeper reproductive tissues of the body with delicious tonic herbs , calm the mind and seek inner peace, using meditation and inner fulfillness.

Elimination of menopausal symptoms involves first and foremost the balancing of your humors. Since vaata is at root of menopausal imbalances, it need to be brought into proper balance followed by restoring balance to other doshas, if needed. Vaata is balanced by establishing a regular routine, eating mainly warm, cooked, vaata reducing wholesome food, drinking plenty of fluids, performing daily massage (*abhyanga*) to calm nerve and sooth dry skin. Pitta can be balanced by chilling out nervous system through decreasing stimulation, never skipping meals, balance of rest and activity. Kapha is balanced by arising early each morning, weight control, exercise and reduced sweetness. According to Caraka Samhitaa all diseases occure due to the imbalance in *agni* and *agni* is the single most important factor in the buildup of *aama*. As a result the treatment of *aama* must always include the treatment of *agni* including the use of digestive herbs and spices, eating meals on schedule and elimination of cold foods and drinks. *Pancakarma* can also be utilized to eliminate *aama*.

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> Foods that are high in calcium include milk, yogurt, cheese, tofu, sesame seed, soy, almond, broccoli, sea weed, and dark green leafy vegetables. The digestion of proteins produces acids which are buffered with calcium. Thus foods rich in protein but low in calcium (such as meat) result in calcium loss from the bones[23]. As a result vegetarian needs less calcium than meat eaters[24].

Digestive herbs like cumin, coriander and fennel can be advised to enhance digestion. Massage with coconut oil, yoga and regular exercise like walking should be performed as routine. Key herbs are black cohosh (study shown benefit for vasomotor symptoms compared with conjugated estrogen)[16], *Asparagus racemosus* (*śataavari*)[17], Chaste berry (*Agnus castus*), red clover (*Trifolium partense*)[16],[18], and Ginseng[19] (*Pana ginseng*).

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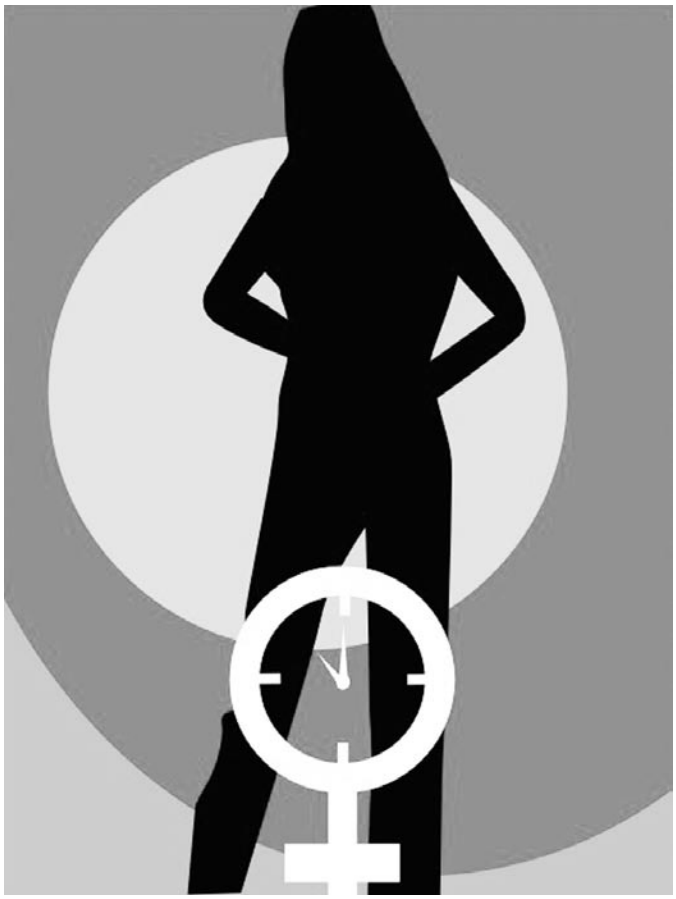
lead to unhappiness (mental worries) should be avoided [20]. Most coronary heart diseases are of Kapha nature, reflecting oveweight, yet as pitta relates to the blood, heart disease, particularly hypertension is commonly a pitta disorder. Vaata type heart disease is most common in elderly, where there is drying out of the tissues and hardening of blood vessels[21].

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> Yoga helps to adjust the changing hormone level while feeding your mind body and soul. Potential benefits of yoga are limitless, able to support us to each phase of our life.



including oil therapy (sesame oil).

Follow a vaata pacifying diet and life style regime. Eliminate alcohol, smoking, carbonated drinks, white sugar, table salt, phosphate diuretic and antacid containing aluminium ,all of which leach calcium from bones[25]. Eat phytoestrogen daily and adequate intake of minerals through diet. Engage in weight bearing exercise and spent time in sun light. Key herbs include *pravaala pishti*, *aswagandha, balaa, hareetakee* (T. Chebula), soy[26].

Emotional and cognitive disturbances- It is estimated that 27% of all women who experience agitation and depression during their periods and 36% of women who became depressed premenstrually will be very sensitive to hormonal changes that occur at menopause. Another important factor to consider during menopause is the condition of adrenals. Cortisol hormone produced by adrenals gives us a much needed boost through crisis as part of our "fight or flight mechanism". As the result of fast paced, high stressed life style that most of us lead our adrenals often received nearly continuous massage that this extra boost of cortisol is needed and the production of cortisol remains at an elevated state. If get disturbed from too much activity, lack of sleep, irregular eating, excessive caffeine etc. then worry, anxiety and even panic attack can results. Pitta dosha is often disturbed at menopause as well, resulting in anger and irritability. During menopausal transition forgetfulness, difficulty thinking and other cognitive disturbances occur but existing studies are inadequate for separating aging effects from the effects of menopause.

Follow a vaata, pitta, kapha pacifying regime. Engage in stress reduction technique like meditation, yoga, *praanaayaama*, exercise regularly. Key herbs are Nordostachys *jataamaamsi (jataamaamsi), valerian, Centella asiatica (brahmi), asvagandha, sataavaree,* st.john's wort (*Hypericum perforatum*)[27], *Ocimum sanctum (tulsi)*, sandal wood (*Santalum album*), *Eclipta alba (bhrngraaj), Convolvulus pluricaulis (sankh pushpi), balaa,* sesame oil. A study shows that with the use of *Acorous calamus (vacaa), asvagandha, jataamaamsi and ulat kambal (Abroma augusta)* psychological symptoms i.e. anxiety and irritability were relieved[28].

INSOMNIA

Hot flushes, night sweats as well as worry, anxiety and palpitation can result in difficult sleeping. In Ayurveda, sleep is considered one of three pillars of life making adequate restful sleep an extremely important part of ensuring our health and well being[29].

Follow a vaata pacifying diet and life style regime, avoid caffeine and eat a easy digestible dinner by 7 pm. Take a warm bath before at bed time rub small amount of coconut oil at scalp and at sole. Reduce stimulating activity in evening instead walking, meditation, listen music; head position during sleep should be east or south (never north). Key herbs include *asvagandha, jatamaamsi, brahmi,* nutmeg, lemon balm, *sankh pushpi.*

SKIN PROBLEMS/ DRYNESS/ VAGINAL DRYNESS

Female hormones make women's skin softer and thinner than men's skin. Women's skin also secrete less oil from the fat layers than men, making women's skin drier and more prone to the effect of aging. These factors become even more pronounced at menopause, the vaata time of life. As the skin thin it becomes more sensitive and susceptible to pitta condition such as infection, inflammation, dermatitis, break outs, sun burn and allergens[24]. Further more the flow of blood to skin is decrease as age advanced, bringing less nutrition to skin. Decrease estrogen results in thinning and drying of vaginal tissues, which can be painful especially during intercourse[24]. Vaata skin problem are most common during menopause, the other dosha can also play a part. Vaata skin conditions include skin that is dry, thin, rough, flaky, fine pored, cool to touch. Pitta skin conditions include rashes, warmth, redness, spot or pigments disorders. Kapha skin conditions tend to oily; soft cool enlarged pores, moist type eczema, black heads, pimples, water retention and fungal infections.

Follow a vaata pacifying and life style regime, coupled with pitta or kapha pacification techniques. If these symptoms exist most important technique for restoring moisture is oleation, both internally and externally (daily *abhyang* is extremely beneficial using doshicaly appropriate oils such as sesame for vata, coconut or sunflower for pitta, and mustard oil for kapha, for internal oleation drink 3 liter of water daily and eat juicy fruits, adequate intake of healthy oils such as cow's ghrit, primrose oil and fish oil). Moistened tampon (sesame oil, *ghrt*) should be placed in vagina for dryness. Key herbs are black cohosh (*Cimicifuga racemosa*), *kava kava (Piper methysticum)*, myrrh (*Commiphora myrrha*), aloe (*Aloe vera*), licorice.

WEIGHT GAIN

It is one of the biggest complaint that women face during perimenopausal/ menopausal years. From an Ayurvedic perspective, the extra weight gain is disturbance of *medas dhaatu*. Central obesity (excess belly fat) is a problem. Abdominal cells are more metabolically active and potentially more dangerous than the hips and thighs. They can contribute to insulin resistance and can pump too much androgen and estrogen. The classic apple shaped figure is associated with an increased risk for heart disease, uterine cancer, diabetes, kidney stones, hypertension, PCOD, arthritis, stroke and sleep apnea6. Thyroid function should be checked as weight gain is one of the symptoms of thyroid problem.

Kapha or vaata- kapha diet may be appropriate. Reduce consumption of food high in simple sugars and starches, harmful fats, eat a easy digestible dinner earlier, exercise, drink plenty of water (hot water is more beneficial). Key herbs include black pepper (*Piper nigrum*), *citrak* (*Plumbago zeylanica*), *guggul*, barley, *trikatu*.

Activities like aerobics, regular exercise such as swimming or walking lead to improvement in menopausal symptoms[30].

Yoga helps to adjust the changing hormone level while feeding your mind body and soul. Potential benefits of yoga are limitless, able to support us to each phase of our life. One beautiful thing about



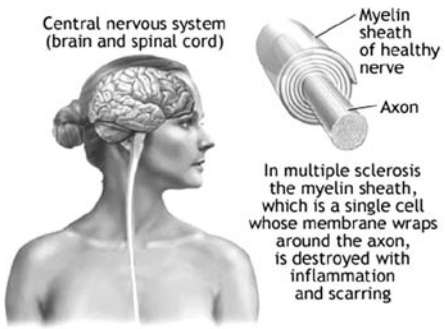
MULTIPLE SCLEROSIS

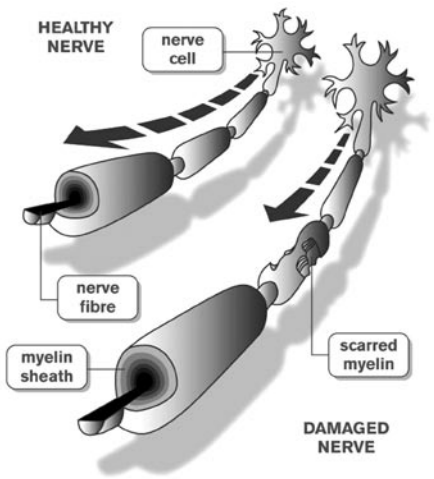
Clinical panel KAH, Aluva

24 year old female patient Shabna from Coimbatore presented with numbness & heaviness of lower limbs, difficulty in walking, balancing problem related to posture for which she was repeatedly taking treatment for the past two years. Strength of the muscles of lower limbs was IV degree, loss of muscle tone, tremors, dragging foot, lack of coordination of limbs, tingling sensation were the other symptoms. It was a diagnosed case of multiple sclerosis and she was on tab. Wysolone for 2 years. She got admitted in Kerala Ayurveda Hospital Aluva on 23rd April 2009 (OP No 9761, IP No 6550) and discharged on 7th May 2009.

MRI shows multiple small hyper intense areas seen in the periventricular and deep white matter in both cerebral hemispheres, dorsal aspect of the pons and in the medulla. There are multiple small patchy hyper-intense areas seen in the cervical dorsal spinal cord & conus medullaris.

This case is being reported due to unusual presentation of the disease. Usually in multiple sclerosis eye involvement is seen but in this case it is absent. On examination it was diagnosed as a type of *sarvangavaata* involving the body fluid (*rasa*), blood (*rakta*) and fat (*medas*) with the affliction of nerves (*naadee*) in the system. The progressive degenerative





nature (*apacayaatmaka svabhaava*) of white matter in brain is the characteristic in multiple sclerosis which could be considered as a pathological problem related to kapha, hence the humors involved are vaata and kapha in this case. It could be noted that the nature of demyelination here is a type of depletion of fat (*meda-kshaya*) due to improper interaction of bio-fire (*agni*) located there which could also be interpreted as a vitiation of blood (*rakta*).

TREATMENT

PERIOD -14 DAYS.

Gandharva-hastaadi kvaatha with *Avipatti-kara coornam* 1 tsp 6AM

This combination of medicine was given with the view to make proper flow (*anulomana*) of vaata without disturbing the pitta by adding the above powder (*coornam*) which could prevent the possibilities of internal burning sensation (*vidaaha*) by the above *kvaatha* . This is an important point to be considered in the treatment of MS.

Gulgulu-tiktakam kvaatha at 6 PM

This formulation specially acts on fat (*medas*) and helps regain the consistency by controlling the vaata and bio-fire (*agni*) resulting in normalizing the vaata and kapha.

Pancakola coornam along with Asvagandha coornam 1 tsp at 10 AM.

It has been noted that this peculiar combination miraculously works in several degenerative conditions as it can penetrate the tissue plane (*dhaatu*) and produce the anabolic (*brmhana*) action by the *ushna* and *snigdha* properties instantly.

Special coornam 1tsp at 4 PM

This special formulation helps correct the sensory channels and regain the functional consistency of nervous system (*naadee-kaanda*).

Brhacchaagala ghrta 1 tsp along with ***Dhanvantaram pill*** at bed time.

This medicated ghee (*ghrta*) is prescribed in a number of varied conditions of diseases caused by the humor vaata especially in severe degenerative situations.

Dhaaraa & pizhiccil with ***Dhaanvantaram tailam***.

This treatment procedure also is found to produce good results in MS. Care should be taken in keeping the oil in very minimum temperature during the procedure.

After the course of treatment in KAL Hospital the patient was very much satisfied with the improvements in minimizing the symptoms and advised to continue the medicines further for 6 months and to review thereafter.

This case was admitted with a challenge to find out the possibilities to treat such cases in Ayurveda and we were pleased with the results given by the divine science.

DIABETIC GANGRENE



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Diabetes has become more common in the world. If neglected the disease leads to dreadful diseases like gangrene and ulcer. Cracks on the sole of foot lead to ulceration. Neural defects may lead to the cracking of skin. Bacterial infection of the cracks and improper blood circulation of the leg lead to gangrene. Gangrene may occur as a complication of diabetes mellitus.

DEVELOPMENT OF GANGRENE

1. Wounds on the surface of the skin without bacterial infection.

2. Because of the improper functioning of the nerve the skin is cracked. There will be scratches. The area will have no sensation.

3. The wound is deep and may even reach the bone. The wound will develop ulceration.

4. The circulation of the blood to the affected area stops. Nerves also become weak and if there is any bacterial infection, there is a chance of Gangrene.

5. All the cells of the leg are destroyed. (Diabetes affects all the parts of the body. Leg is mentioned here as an example as it is mostly affected.)

GANGRENE



Due to the change of colors in the re-crossed tissues and bacterial infection there will be stinking and due to the death of the tissues the color changes to black or blue.

DRY GANGRENE



In this condition as there is no blood circulation, the tissue will be dead, decayed and becomes dried. It is seen both in hands and legs.

WET GANGRENE



This is due to the slow blood circulation in the nerves. It leads to clotting of blood and thus will not provide any protein and thus the tissues are decayed. This leads to wet gangrene where the area swells up and ruptures.

GAS GANGRENE



This is a very stinky gangrene because foul gas also comes out with the exudate.

WOUNDS

Due to smoking and alcoholic consumption the nerve which goes to the legs are destroyed or infected due to the lack of blood circulation. Later it leads to wound.

SENILE GANGRENE

Smoking is the main cause for this disease. It occurs specially to the old people due to the weak muscles and nerves which will finally lead to thin limbs and wounds are also seen.The important Ayurvedic medicines which we get from pharmacies are

1. *Nisaakatakaadi kashaayam*
2. *Gulgulutiktakam kashaayam*
3. *Gulgulutiktakam grtam*
4. *Triphalaa coornam*
5. *Naalpaamaram coornam*
6. Glymin.

A special *kashaaya coornam*, formulated by me, (formula ibid below) gives the best results in the treatment of both gangrene and ulcer.

Hence we can conclude that for all these diseases there is only one cause that is the pollution from outside and the excretory material of our body which together will lead into dangerous disease.

Only the healthy person can excrete the unwanted properly but the unhealthy cant. All these starts from eating junk foods, alcoholic consumption, mental tension etc...

Ayurveda cures all these diseases physically and mentally and helps us to live ass a complete human being.

For this meditation, yoga and especially vegetarian diet is important.

INGREDIENTS: -

Sanskrit/vernacular Name	Scientific Name
Ekanaayakam	*Salacia prinoides*
Bechaka	*Pterocarpus marsupium*
Vandhyaakarkadi	*Mimordica diocia*
Madhunasini	*Mymnema slyvestre*
Kiraatatikta	*Swertia chirata*
Aaranyajeera	*Centrathurum anthelminthium*
Methikaa	*Trigonella foencum*

KERALA AYURVEDA ACADEMY

As an extension to our hospital at Aluva, we are having a unique place for developing efficient professionals and paramedical personnel with high caliber and professional skill. It is the forerunner of institutions of its kind in the field of Ayurveda. The centre is well equipped and conducts various training programmes with suitable syllabi, proper curricula and high standards of instruction and we believe that only the best can create the level of excellence it aims at and hence employs a team of most efficient and experienced mentors to impact theoretical knowledge and practical wisdom. The curricula are recommended by leading practitioners and academicians and are apt to meet global requirements. A certificate is issued by the centre to the successful candidates on completion of the courses.

THE CENTRE CATERS TO NEEDS OF

1. Medical officers
2. Therapists
3. Foreign National's
4. Ayurvedic Entrepreneurs
5. Beauticians
6. Ayurvedic Medical Representatives
7. Ayurveda Pharmacists

The centre also runs continuous training programmes for Kerala Ayurveda Ltd staff members to orient and equip them to meet the challenges of customer satisfaction. All the training programmes include lectures, discussions, demonstrations, and hands on practical training.



A Japaneese team of passing out students holding their certificates with Dr. Geetha G. Pillai, Course Director, Kerala Ayurveda Academy, Aluva

FEED BACK OF ONE OF OUR STUDENTS

I am Dr. Namdol Lhamo, a Tibetan in origin and a practitioner of Tibetan herbal medicine at the Tibetan Medical and Astrological Institute situated in Dharamsala (Himachal Pradesh, India). My educational qualifications are B. Sc. (Bachelor of Science) in Botany Honours from the Delhi University and BTMS (Bachelor of Tibetan Medical Science) from the Tibetan Medical and Astrological College in Dharamsala.

I was really thrilled to learn one fine day that I am selected as one of the two doctors of the institute to go down to Kerala for one month training in Ayurvedic Pancakarma and therapies. I always knew that the Tibetan Medicine and Ayurveda share many common basic concepts but my dream of exploring Ayurveda further remained unfulfilled until this opportunity came my way. It indeed is a profound knowledge based on science, religion and art.

The demonstrations of innumerable therapeutic treatments for the students at the academy, and being practised in their hospital located in the next street; in its purest possible forms deserve great appreciations. Kerala Ayurveda Academy here impressed me with its team of highly sincere and dedicated director cum coordinator, professors, therapists and staff. I salute you for that and thank you all for being responsible in making my short journey into Ayurveda a very interesting and educative one. I wish all the best to all the members of the academy and the company in continuing the stream of your noble work towards the wellness of whole mankind.

Thank You

Dr. Namdol Lhamo,
Tibetan Medical and Astrololgical Instiute,
Gangchenkyishong,Dharamsala, Distt.Kangra, H.P
E-mail: drnamdoll6@gmail.com

AYURVEDAGRAM

A PORT OF GOODWILL AND ENTREPRENEURSHIP

Dr. Manmohan.R,
Medical Superintendent,
AyurvedaGram Heritage Wellness Centre Pvt Ltd,
Whitefield, Bangalore.



AyurvedaGram is not different from the concept of an authentic hospital because it is technically registered as a hospital. The features that differentiates the individual seeking treatment at this wellness centre is the level of comfort he or she enjoys in re-discovering themselves while undergoing authentic and traditional ayurvedic treatments for the ailments of the body and mind while being exposed to therapeutic yoga, educational sessions on the ethics and principles of Ayurveda and Yoga, vegetarian cuisines that tickles the taste buds within the strict parameters of the Tridosha, quality personalized service and customer care and above all the pristine and ethereal beauty of a landscape that reminds one of the greener and sedate Kerala a good hundred years back.

The physicians and the yoga teachers at AyurvedaGram helps the patients make use of the opportunity of being in such a locale by guiding them to the required changes in their style of living and eating, thereby enabling them to maintain and sustain the benefits acquired at AyurvedaGram, once they are back in their familiar habitat and work routine.

A lot of effort goes into the initial consultation session with a patient at AyurvedaGram. The emphasis is to derive as much of clinically relevant input as possible from all available resources in a most homely manner. For this purpose, the session is not necessarily confined to the doctor's cabin. The seats beside the fountain as well as those in the herbal garden just outside the patient's accommodation are made use of for this purpose to induce a feeling of cordiality and develop mutual trust and faith, which inevitably happens to be the mainstay of any long-lasting relationship. It is this approach that, in reality, translates into the 15 to 20 percent of the clients repeating their annual rendezvous with the programmes at AyurvedaGram. It is heartening to know that for some it has become a sort of pilgrimage.

Care is taken to ensure that the patients are pampered through out their stay and beyond. The twice daily visits by the doctors to their rooms to enquire their well-being, the presence of the resident medical officer controlling the operations at the treatment centre, the confidence given to the patients by the presence of the concerned doctor while they undergo intense treatment procedures like nirooha and tarpana, the encouragement provided by even the non-medical staff during the routine morning and evening walks in the herbal garden – all contribute to generate an 'at-home' feeling even to the most introvert of clients. This kind of individual care is substantiated by regular exchange of emails by the doctors enquiring the welfare of the patient who benefited with the stay at AyurvedaGram.

In this context it is imperative to be aware of the fact that a good ayurvedic physician is one who is not only a good clinician but also one who has some entrepreneurship to support his talents. This is a basic requirement even for an ayurvedic doctor who is running his or her own out-patient clinic. By this scale, the responsibility of the doctors attached to a company such as Kerala Ayurveda Ltd, which in itself is expanding with the times, is all the more huge. To sustain a hard earned reputation and to take it beyond the borders and across the globe without sacrificing the basic ethics of this ancient science needs a crystal clear vision coupled with enormous commitment and dedication. AyurvedaGram is a portal by which Kerala Ayurveda Ltd opened a window to the outside world, to experience authentic and undiluted Ayurveda. Let us work together to keep the momentum.

VISIT - SRI SRI RAVI SANKAR

Sri Sri Ravi Sankar, Head of the Art of Living Foundation and world renowned Spiritual Teacher visited Ayurvedagram on 22nd June 2009.

Sri Sri Ravi Sankar, popularly known as Guruji, among his ocean of followers has large spiritual organizations spread into 170 countries in the world. Various courses conducted by the most revered Spiritual Guru in the Art of Living around the globe have been a great blessing to humanity as a whole. He also runs a large number of charity organizations primarily aimed at providing schooling facilities to the children of the down-trodden. His Ashram at Kanakpura in Bangalore is the abode of spiritual wealth and wisdom.



His Holyness Sri Sri Ravi Sankar visiting Ayurvedagram with Mr. Ramesh Vangal, Chairman, KAL

Sri Sri Ravi Sankar was received by our Chairman, Mr. Ramesh Vangal, who explained detailed functions of Ayurvedagram and future expansion plans to the Guruji. Guruji was mightily impressed with the therapeutic facilities and heritage ambience of the wellness center and expressed his desire to visit again

VISIT – RAJARSHI SHRI VEERENDRA HEGGADE, PADMA BHUSHAN

Rajarshi Sri. Veerendra Heggade, Head of the revered and reputed religious institution

"DHARMASTHALA', located in South Karnataka visited Ayurvedagram on 20th June 2009

Sri Veeerendra Heggade, besides being the head of Dharmasthala which represents religious tolerance wherein caste, creed and faith of pilgrims are no bars, also dispenses justice without legal formalities, acting in lthe tradition of his ancestral role. Sri Heggade also runs a large number of educational and charity institutions in South Karnataka, including SDM college of Naturopathy and Yogic sciences, College of Ayurveda in Uduppi, SDM Ayurveda college and Hospital Hassan and Dharwad,



Rajarshi Sri. Veerendra Heggade with Mr. Ramesh Vangal at Ayrvedagram

Rural development and self employment training institute at Ujire among large number of other institutions/organizations.

During his visit to Ayurvedagram, Sri. Veerendra Heggade expressed his deep appreciation for providing traditional Ayurveda therapies to the needly clients in exquisite heritage ambience in Bangalore by Kerala Ayurveda Limited. He was also appreciative of the facilities available in Ayurveda-gram. Shri. Heggade held long discussions with our Chairman Mr. Ramesh Vangal, who explained to him about our future projects in the field of Ayurveda.

KERALA AYURVEDA HOSPITAL ALUVA

A UNIQUE HEALTH CARE CENTRE

Kerala Ayurveda Hospital is located near the river Periyar, where the famous festival of Sivaraatri dedicated to Lord Siva takes place every year. The hospital at Aluva is a full fledged and is the main referral Ayurveda Hospital having the infrastructure facility to accommodate 40 in-patients at a time. Here all ayurvedic treatments are performed under the supervision of expert doctors adhering to the traditional Ayurvedic practices of Kerala. Patients from all parts of India and abroad reach Kerala Ayurveda Hospital for availing treatments for various ailments.

The hospital is well connected by air, rail and road and is only 12 kms away from the Cochin International Airport and hardly 2 kms from Aluva Railway station and is also very close to the N H 47, which runs through Aluva Town.

KERALA AYURVEDA SPECIALTY CLINIC

Kerala Ayurveda Hospital provides specialty consultation clinics by a panel of eminent doctors in both Ayurveda and modern medicine who collectively diagnose and prescribe the remedies for the effective management of diseases. Gynecological diseases, Joint diseases and gastro-intestinal diseases are being managed with a scientific approach to track and tackle chronic conditions.

Very renowned physician, Padmasree Dr. K Rajagopalan MBBS, DAM, FAIM chairs the panel of doctors which include Dr. K. Sasidharan MD (Ay) Medical Superintendent, Dr. K. Vasanthakumari BAMS Senior Medical Officer and Dr. Dulari BAMS Medical Officer.

EYE / DIABETIC CLINIC

Every Fridays are committed to attend the people suffering Diabetes and related ailments like Diabetic neuropathy, Obesity, Glaucoma, diabetic retinopathy, short sightedness, night blindness, colour blindness and blurred vision. Medicines specially prepared for the management of these particular conditions will be provided from the hospital. The time tested treatments such as *Tarpanam, Anjjanam, Putapaakam, Nasyam*, etc. will be carried out authentically.

Eye specialist Dr. Gokulan BAMS, FAIP(USA), FCRY(IND) will be consulting the patients on the same day.



A view of Kerala Ayuveda Hospital, Aluva



Dr. K. Anilkumar, Executive Director, KAL Inaugurating the new OP Division of Kerala Ayurveda Hospital, Aluva by lighting the traditional lamp

HIGHLIGHTS

- Full fledged in-patient facility with Deluxe and Ordinary rooms
- Daily out patient consultation from 8 am to 8 pm
- Advanced diagnostic facilities
- Computer aided patient profile
- Full fledged *panca-karma* theaters
- Yoga and meditation facility daily
- Specialized diets for patients considering wholesome food
- Round the clock nursing and medical care
- Internet browsing facility
- Out door medical check up programs and awareness programs.
- Saastra-madhanam – scientific discussion
- Clinical research programs
- Internship training program for BAMS students

SAASTRA MATHANAM

(Scientific deliberations)

Saastra-mathanam is a program meant to have a single platform to share the valuable experiences of the learned physicians of our organization to improve the professional excellence by harnessing the wisdom of Ayurvedic luminaries.

IRON DEFICIENCY ANEMIA AND ANNABHEDI

Santhosh N.
Bose R.C.
Manu Somanath
Dr. Sarala Samuel
& Dr. Jolly
R&D, Kerala Ayurveda Ltd.

Iron deficiency anemia is the condition in which there is anemia and clear evidence of Iron deficiency. When iron stores become depleted, the serum iron begins to fall. Gradually the Total Iron Binding Capacity (TIBC) increases. As long as the serum iron remains within the normal range, hemoglobin synthesis is unaffected despite the dwindling of iron stores.

There are three stages for iron deficiency. The first stage is negative Iron balance in which, demands of Iron exceed the body's ability to absorb iron from the diet (due to blood loss or pregnancy). The second stage indicates iron deficient erythropoiesis. Careful evaluation of peripheral blood smear reveals the first appearance of micro cystic cells. Gradually the hemoglobin begins to fall. The third stage when anemia becomes severe, the hypochromia and micro cystosis becomes more prominent. Prolonged Iron deficiency anemia results in erythroid hyperplasia of the bone marrow and the smear or needle biopsy will detect the disorder such as myelofibrosis or infiltrative disease.

THE SYMPTOMS OF IRON-DEFICIENCY ANEMIA

If a person is otherwise healthy, it can take some time for the signs of anemia to appear but will be able to notice the pale color of lips as well as in the eyelids and the following symptoms are observed.

1. Tiredness and palpitations (awareness of heartbeat).
2. Shortness of breath and dizziness (fainting).
3. If the anemia is severe, you may experience angina (chest pain), head ache or leg pains (intermittent claudication).

Besides these general symptoms of anemia, in pronounced and long-term cases of iron deficiency there will be:

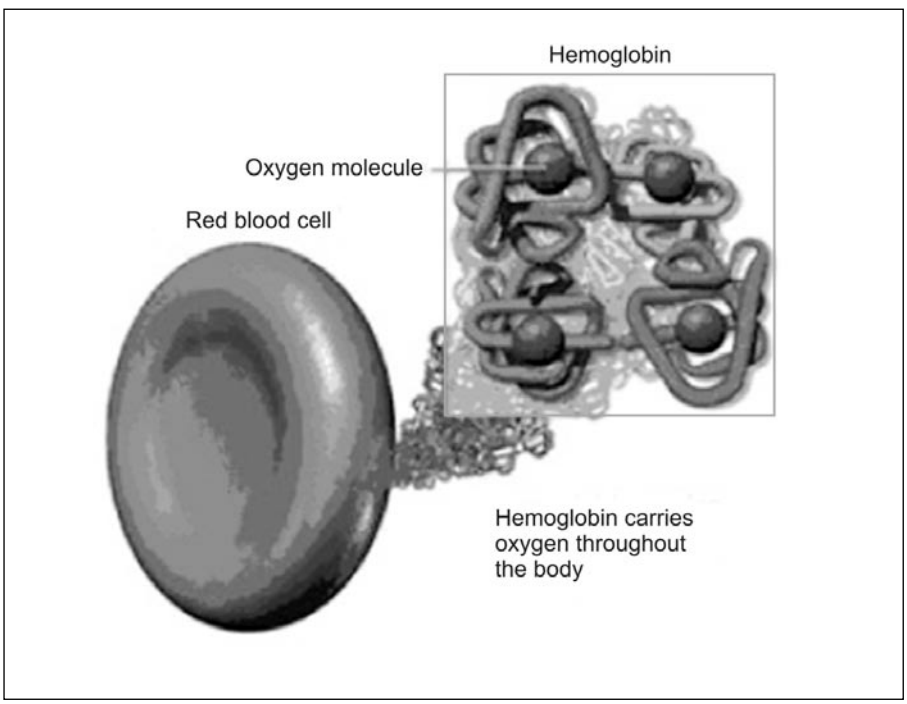
- burning sensation in the tongue
- dryness in the mouth and throat
- sores at the corners of the mouth
- altered sense of touch
- brittle, spoon-shaped nails with vertical stripes and a tendency to fray
- pica (an insatiable craving for a specific food)
- brittle hair
- difficulty in swallowing

In rare cases iron deficiency can cause permanent changes to the soft lining in the throat (Plummer-Vinson syndrome). This condition is a preliminary stage to cancer.

WHAT AFFECTS IRON ABSORPTION?

Iron absorption refers to the amount of dietary iron that the body obtains and uses from food. Healthy adults absorb about 10% to 15% of dietary iron, but individual absorption is influenced by several factors

Storage levels of iron have the greatest influence on iron absorption. Iron absorption increases when body stores are low. When iron stores are high, absorption decreases to protect against toxic effects of iron overload. Iron absorption is also influenced by the type of dietary iron consumed. Absorption of heme iron from meat proteins is efficient. Absorption of heme iron ranges from 15% to 35%, and is not significantly affected by diet. In contrast, 2% to 20% of nonheme iron in plant foods such as rice, maize,



RECOMMENDED DIETARY ALLOWANCES FOR IRON FOR INFANTS, CHILDREN, AND ADULTS AS PER THE STUDIES BY INSTITUTE OF FOOD AND NUTRITION ARE AS FOLLOWS

Age	Males (mg/day)	Females (mg/day)	Pregnancy (mg/day)
7 to 12 months	11	11	-
1 to 3 years	7	7	-
4 to 8 years	10	10	-
9 to 13 years	8	8	-
14 to 18 years	11	15	27
19 to 50 years	8	18	27
51+ years	8	8	-

black beans, soybeans and wheat is absorbed. Nonheme iron absorption is significantly influenced by various food components.

Meat proteins and vitamin C will improve the absorption of nonheme iron. Tannins (found in tea), calcium, polyphenols, and phytates (found in legumes and whole grains) can decrease absorption of nonheme iron. Some proteins found in soybeans also inhibit nonheme iron absorption. It is most important to include foods that enhance nonheme iron absorption when daily iron intake is less than recommended, when iron losses are high (which may occur with heavy menstrual losses), when iron requirements are high (as in pregnancy), and when only vegetarian nonheme sources of iron are consumed. So it is essential to note this factor by vegetarians with regards to iron absorption. Excessive consumption of tea by vegetarians will have negative impact in iron absorption.

THE CRUCIAL ROLE OF IRON IN THE BODY

The mineral iron has many functions in the body. Iron from the diet is an essential part of haemoglobin - the substance which carries oxygen in the blood. It is therefore essential at all stages of life for blood to work efficiently. Iron is also required for energy metabolism and is necessary for neurological development of developing embryos. Iron is also needed for the normal function of the immune system.

Iron is the central atom of the heme group, a metal complex that binds molecular oxygen (O_2) in the lungs and carries it to all of the other cells in the body (e.g., the muscles) that need oxygen to perform their activities. Without iron in the heme group, there would be no site for the oxygen to bind, and thus no oxygen would be delivered to the cells (which would result in the cells dying). In addition to hemoglobin, other important proteins in the body that contain heme groups (and therefore contain iron) include myoglobin, which takes oxygen from hemoglobin and allows the oxygen to diffuse throughout the muscle cells, and the cytochromes, which supply the body with its energy currency.

The serum iron level represents the amount of circulating iron bound to transferring. The TIBC is an indirect measure of the circulating transferring. The normal range of serum iron is 50-150mg/dl. The normal range for TIBC is 300-360mg/dl. Free iron is toxic to cells and the body has established and elaborate protective mechanism to bind iron in various tissue compartments. Iron deficiency anemia is a serious issue to focus.

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Iogen is an ideal Hematinic tonic for Iron deficiency anemia.

IOGEN SYRUP

At least one fifth of the world population lack iron in their diet, hence in their blood; according to the World Health Organization. Iron absorption is enhanced by Vitamin C, Cu+, Folic acid, Zinc and Manganese. Iogen Syrup by Kerala Ayurveda has taken care of all these factors.

Iogen, a complete hematinic tonic for Iron deficiency anemia, supplement iron in highly assimilable and easily absorbable ferrous form, released at the site of absorption. It is a rich source of iron blended with natural vitamin C, Ca, Cu and K. Vitamin C has relationship with mineral Iron. The vitamin helps the absorption of iron through the intestine walls, boosts hemoglobin formation, useful in post-natal and post-surgical cases, improves quality and quantity of blood and regulates circulation and is effective and natural iron balance for rapid haemopoiesis.

COMPOSITION:

Each 15 ml is prepared out of:

Ingerdients	Qty
Emblica officinalis (*Aamalakee*)	40mg
Coccus lacca (*Laakshaa*)	45mg
Acacia catechu (*Khadiraa*)	50mg
Hemidesmus indicus (*Saariba*)	60mg
Aegle marmelos (*Vilva*)	75mg
Vitis vinifera (*Draaksha*)	80mg
Asparagus racemosus *(Sataavari)*	125mg
Purified *Annabhedi*	30mg
Syrup base	Q.S.

INDICATION:

Haematinic, hepatic tonic.

DOSAGE:

1 to 2 teaspoon twice daily after food or as directed by the physician.

PRODUCT EFFICACY:

- Maximum iron absorption.
- Rapid rise in Hemoglobin level.

- No gastro-intestinal disturbance.
- Non irritating and free from obnoxious or metallic taste.
- Well accepted by children.

The role of various ingredients with their chemical constituents in the formulation explains their presence in iron deficiency anemia.

INGREDIENTS

Emblica officinalis (*Aamalakee*):

Chemical constituents:

Rich source of Vitamin C, Glutamic acid, proline, aspartic acid, alanine, and lysine are 29.6%, 14.6%, 8.1%, 5.4% and 5.3% respectively of the total amino acids. gallic acid 1.32%, tannin, sugar 36.10%; gum 13.75%; albumin 13.08%; crude cellulose 17.08%; mineral matter 4.12%

Indications:

Anemia, emaciation, hyperacidity, One of the best rejuvenating and vitalising drug

Coccus lacca (*Laakshaa*):

Chemical constituents

Lac contains 70-80% resin (Aleuritic acid 35%, shellolic acid, kerrolic acid and butolic acid are in small amount), sugars, proteins, colouring matter (1-2%), wax (4-6%), extraneous matter (8-12%) and trace amount of volatile oil. The colouring matter contains laccaic acid which is water soluble.

Indications:

Helps to increase RBC, increases bone density

Acacia catechu (*Khadira*):

Chemical Constituents

Flavanoids 1.76%, Tannins 4.21%; Accia catechin, catechu tannic acid, quercetins

Indications

Appetiser, haematinic, haemostatic, and tonic.

Hemidesmus indicus (*Saaribaa*):

Chemical Constituents

Flavanoids 2.55%, Ketosterols 0.28%, Saponins 5.84%, Glycosides 14.67% ; P-methoxy salicylic aldehyde, β-sitosterol, α,β amyrins

Indications

Blood purifier, alterative, tonic, increase appetite, corrects nutritional disorders

Aegle marmelos (*Vilvaa*):

Chemical constituents

Tannins. umbelliferone scopoletin, psoralen, xanthotoxin, O-methylscopoletin, and tembamide



Indications

Tonic, digestive, blood purifier, somatic, laxative

Vitis vinifera (*Draakshaa*)

Chemical constituents

Flavanoids 0.78%, Ketosterols 0.11%; Resveratrol, Vitamin-c, minerals, sugar and amino acids

Indications

Nutritive, haematinic, laxative, appetizer, effective in anorexia, indigestion and dyspepsia

Asparagus racemosus **(*Sataavari*):**

Chemical constituents:

Steroidal saponins:- shatavarins Glycoside:- Shatavarin and other constituents are Sarsasapogenin, asparagin, shatavarin, saravarin I-IV isoflavones, isoflavone7-O-beta-D-glucopyranoside , asparagamine, polycyclic alkaloid , racemosol, alkaloids, proteins, starch, folic acid and tannins.

Indications:

Nutritive, tonic, cooling, adaptogenic, appetizer

Purified *Annabhedi*

A brief profile of *annabhedi* - the main source of Iron in Iogen syrup is given below

Syrup base

All herbs which contain chlorophylls (blood of plants) are useful to rebuild the blood in anemia. Iogen contains plenty of other food elements which apparently help the body to use iron well, chiefly Vitamin C, Copper, and Vitamin B

Iogen syrup is a real choice which is the nature's secret

ANNABHEDI

Iron is a mineral, rather plentiful in some foods, but very scarce in others, which is essential for the formations of the red pigment that colors our red blood cells. For this *annabhedi* or *kaaseesa* is a gift of Ayurveda. *Annabhedi* is generally incorporated in the ayurvedic formulations as *Annabhedi suddhi* or *Sindooram*.

Iron (II) sulfate or ferrous sulfate is the chemical compound with the formula ($FeSO_4$), known since ancient times as copperas. It is most commonly encountered as the blue-green heptahydrate.

At 90°C, the heptahydrate, also called green vitriol or copperas, loses water to form the colorless monohydrate. Together with other iron compounds, ferrous sulfate is used to fortify foods and to treat iron-deficiency anemia. Copperas was given indiscriminately by untrained persons to slaves in the 18th and 19th centuries for various ailments. Constipation is frequent and uncomfortable side effects are associated with the administration of oral iron supplements. Stool softeners often are prescribed to prevent constipation. Purified *Annabhedi* from natural source is a better choice for supplementing iron since it is more compatible to our system.

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ANNABHEDI (RAW)

Malayalam	:	*Annabhedi*
Sanskrit	:	*Kaaseesa*
Engish	:	Green vitriol
Hindi	:	*Haratutia*
Chemical name	:	Ferrous suphate
Molecular formula	:	$FeSO_4.7\ H_2O$

Annabhedi is divided in to two varieties by the ancient Chemists

a) Green variety: Ferrous sulphate, it is known in Sanskrit as *vaaluka-kaaseesa*.

b) Yellowish variety: Iron sulphate covered with the basic suphate of sesquioxide from absorption of oxygen. (Sanskrit name: *Pushpa kaaseesa*)

Occurrence

It occurs in pale bluish-green oblique rhombic crystals. Its taste is very astringent or styptic, without any odour, acidic, soluble in water, insoluble in alcohol. It is a salt usually obtained by the decomposition of iron pyritis by the action of atmospheric moisture. It can also be obtained by dissolving iron wires in sulphuric acid by the aid of heat.

Uses

It is a valuable haematinic, tonic and astringent. Iron sulphate is used in skin diseases either alone or with other medicines. For painful syphilitic ulcers it is dusted over them after washing.

Annabhedi Suddhi

Kaaseesa in crude form is cleaned from physical impurities and is treated with juice of Eclipta alba as per classical procedure. The treated mass is dried and cleaned from leafy residue.

Kaaseesa Sindooram

Preparation: The purified mass is converted into cakes by grinding with lemon juice well and dried off under sunlight. It is sealed in earthern pots with pasty mud and cloth firmly. Capsule is again dried under shade and calcined in electrical oven for 24 hours. It was allowed to cool and after cooling the sample was collected with purple reddish colour.

Our R&D Laboratory has conducted certain studies to understand the scientific rationale between ferrous sulphate, *Annabhedi* raw, *Annabhedi* powder purified and *sindooram*. Initially we conducted the spot test to analyse the difference between all of them.

Subsequently it was subjected to ICP-AES (Atomic emission spectroscopy) analysis. The comparative data is given in table 2.

As a trial we have incorporated purified *Annabhedi* as well as IP ferrous sulphate in our Iogen syrup. The data for the presence of iron is provided in table 3.

Incorporation of *annabhedi* in our formulation, which also contain other minerals, enhances iron absorption. The traditional use of *Annabhedi* in ayurvedic formulations shows its absorbability as well as their effective role in Iron Deficiency Anemia.

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Table 2

Name of product	Ca	Cu	Fe	K	Na
Annabhedi raw	165.51 ppm	6.79 ppm	19.96 %	38.02 ppm	483.47 ppm
Annabhedi suddhi	485.22 ppm	9.43 ppm	27.10 %	790.47 ppm	477.42 ppm
Annabhedi sindooram	1833.46 ppm	8.05 ppm	31.33 %	4939.8 ppm	1405.12 ppm

Table 3

Name of the product	Iogen syrup with *Annabhedi*	Iogen syrup with IP $FeSO_4$
Iron content	350.02 ppm	272.47 ppm

MANAGEMENT OF METABOLIC DISEASES



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History of scientific study of metabolism dates back to several centuries, involving the organism as a whole and to the cellular metabolic reactions in modern biochemistry. The word metabolism is derived from '*Metabolismos*' a Greek word which means 'change', and describes a state of continuous dissolution and nourishment. Towards 20th century the advancement of biochemical research paved the discovery and analysis of many molecules and cell mechanisms. Though the concept of metabolism evolved during the period 1213-1288, the entire gamut of knowledge regarding the metabolic functions has been postulated in India during the *Saṃhitaa* period of Ayurveda which dates back to 5000 years.

The reduction approach which focuses on a single metabolic pathway as described in modern bio-chemistry is not described in *saṃhitaas* due to its holistic functional approach of the human system. Ayurveda states that metabolism is the process in which the body uses to get or make energy through the food which involves a number of chemical reactions that occur in living systems in order to maintain health. Basically metabolism revolves around the concept of *agni* in Ayurveda which naturally obeys the law of thermodynamics related to transfer of heat and preservation of energy. In fact the process of entropy is brought by thermodynamic reactions in which an order is maintained by creating a disorder. Ayurveda states that the *agni* causes all transformations and it is responsible for maintaining the consistency of the internal system which is known as the homeostasis. Anyhow metabolic regulations play an important role involving various hormones and enzymes which help maintain equilibrium of the systems which as such does not exist in a state of equilibrium.

Caraka states that longevity (*aayu*), complexion (*varṇa*), strength (*bala*), health (*svaasthyaṃ*), luminance (*prabhaa*), immunity (*ojas*) and even life is dependent on *agni*. Any disease initially is a consequence of vitiation of *agni (jaṭhaaragni, dhaatvagni, bhootaagni*) which functions at various levels in the system. It is also described that the digestive fire (*agni*) and *grahaṇi* are functionally related in the initial digestion of food which also depends on the condition of '*grahaṇi*', holding the food for proper initial digestion in GIT. Here the macromolecules are broken into their smaller units by the *jaṭharaagni*, before they can be used in metabolism. This could be considered as the first step in the metabolic process which subsequently opens up definite pathways for the transfer of nutrients to the internal systems. The bio-fires (*agnis*) functioning in various levels like tissue level (*dhaatvagni*) and subtle level (*bhootaagni*) are more or less related to particular metabolic pathways, its control and regulatory hormones, enzymes and cell signaling in which selective transport of particles with similar properties are being carried out. The concept of similar increases similar is to be understood within this context which is the

basic pharmocodynamics in Ayurveda. Conceptually *agni* subsists in the unctuous (*snigdha*) fraction of pitta, the functional impairments of which reflects in defective metabolic process in different levels. It could also be stated that *samaana vaayu* and *paacaka* pitta play the major role in metabolic processes. Hence *agni* and vaayu are complimentary in functions. When tissue fire (*dhaatvagni*) is in a sharp (*teekshn̲a*) state it results in the depletion of the respective tissue (*dhaatu*) and while it is dull (*manda*) or unexcited results in the increase of the respective tissue.(A.H Su 11/34)

Metabolism involves anabolism and catabolism; catabolism is the break down of complex things to yield energy which is related to oxidation where electron transfer occurs. Anabolism is energy requiring build up of complex tissue structures in the system. It is more or less related to reduction process where gain of electron by a molecule happens. Bio-chemically both these reactions take place in the above two metabolic processes, otherwise they are the simultaneous events occurring in a series of pathways in deferent levels. In Ayurveda the *samaana vaayu* and *paacaka pitta* help breakdown of food substances and transfer the micronutrients to various receptors through particular pathways. Anyhow during the metabolism energy





> Susruta emphasizes that the unctuous fraction (*snigdha-amsa*) of the essence of food (*annarasa, aamarasa*) helps increase of fat (*medas*) due to activities and diet increasing kapha.

transformation results either for functional purpose or for biosynthesis of macromolecules (*poshaka dhaatu* - precursors of *dhaatu*). It could be stated that energy transformations are related to thermodynamics which are functionally related to vaayu and *agni*.

CONCEPT OF *AAMA*

Metabolism is the means by which the body derives energy and synthesizes the other molecules it needs from the fats, carbohydrates and proteins we consume as food, by enzymatic reactions helped by minerals and vitamins.

Aama is an inconsistent situation which develops due to impaired digestive sequence (metabolism) of digestive process (*aahaara pacana*), tissue transformation (*dhaatupari*n̲*aama*) etc. *Aama* is the transforming food nutrients which has not yet but is supposed to become living tissue (*dhaatu*). One which has failed to become tissue is significantly termed aama and becomes pathogenic which causes inconsistencies in various pathways. This could also be interpreted as the inability to accept improper molecules to specific receptor sites due to defective metabolic transformation of food substances.

Despite the level of tolerance of errors in the system, diseases occur by defective metabolic process where a critical enzyme (*agnyamsa*) is disabled or a control mechanism (vaata) for a metabolic pathway is affected. Abnormality of metabolic system leads to a number of metabolic diseases like obesity, diabetes hypercholesterolemia and hypertension.

OBESITY (*STHAULYAM*)

The description of *sthaulyam* in Ayurveda could be analogous to obesity where disproportionate increase in fat (*medas*) occurs comparing to other tissue principles. The unctuous fat molecules (*snigdha* fraction) of post digestive juice (*anna-rasa*) derived from diet increasing Kapha gets transported through the particular path ways (*srotas*) and thus helps increase of fat tissue (*medas*) in the system. In this situation *agni* (selective enzymes) becomes hyperactive due to vitiated neurological factor (vaata) and partial obstruction of the pathways (*srotorodha*), facilitating the excess intake of food and ensuing increase of fat tissue (*medas*). The enzymes which influence the appetite and signal the fat storage reserves in the body through the action on the central nervous system are to be studied in a clinical point of view.

Susruta emphasizes that the unctuous fraction

(*snigdha-amṣa*) of the essence food (*annarasa, aamarasa*) helps increase of fat (*medas*) due to activities and diet increasing kapha. This leads to obstruction of pathway (*srotas*) limiting the formation of other tissues (*dhaatu*), instead fat (*medas*) gets accumulated. Here the tissue fires (*dhaatvagnis*) become deficient in selective absorption. The abdominal fire (*jaṯharaagni*) becomes hyperactive due to vitiated vaata as the sequence of obstruction of pathways (*sroto-rodha*) and increase of fat. This facilitates excess intake of food and subsequent increase of kapha and *medas*. [S. Soo. 14. 32 & C.Soo.21/6]

Ayurveda states that this sequence results in functional impairment of selective enzymes (*agnis*) located elsewhere in the system inhibiting certain pathways and impairing conversion of tissue principles. Here some of the pathways get more activated and others get deficient in transforming and transporting the nutrients to selected receptors. We have yet to find out the objective reasoning behind this mechanism.

Leptin produced by adipose tissue and Ghrilin produced by the stomach have to be considered in this regard. Increased secretion of Leptin may also contribute to macrophage accumulation by increased stimulation of transportation of macrophages to adipose tissue in obesity. The oxidative damage resulting from increasingly lipolytic environment also plays a role in macrophage recruitment which according to Ayurveda could be the triggering mechanism in the patho-physiology in diabetes (*prameha*) where increasingly lipolytic product (*kḻeda*) is formed in the system. Ayurveda states that kapha looses its consistency due to its interaction with pitta (enzymes) under the influence of vaata (neurological factor) and there by resulting in the formation of lipolytic product (*kḻeda*) which subsequently affect the other tissues leading to patho-physiological changes. Here the treatment principle should be that which regulates the CNS (vaata), enzymes (*agnis*), and reduces the fat molecules (unctuous – *snigdha* – fractions). Here nourishing (*guru*) as well as leaning (*apatarpaṉa*) are equally important and the formulations on this basis will be highly desired.

Management

- Avoidance of food and activities that increase kapha.
- Remove the obstruction of the pathway.
- Purification of channels.
- Dehydrating (*rookshaṉa*) / abrading (*chedana*) procedures.
- Abrasive enema (*lekhana vasti - Ooshakaadi*)
- Correction of agni and vaata in levels of GIT (*koshṯha*) and tissues (*dhaathus*)
- Physical exercises (*vyaayaamaṃ*)

Medicines

- *Viḻangaadi kashaayaṃ*
- *Gulgulu-tiktakaṃ kashaayaṃ*
- *Varaasanaadi kashaayaṃ*
- *Varaṉaadi kashaayaṃ*
- *Vyoshaadi-gulgulu*
- *Prabanjana-vimardanaṃ*
- *Varaṉaadi tailaṃ*

Treatment procedures

- Abrasive enema (*Lekhana vasti*)
- Powder massage (*Udvartanaṃ*)
- Dry (non-unctuous) fomentation (*Rooksha-svedaṃ*)
- Buttermilk irrigation (*Takra-dhaaraa*)
- Acetic irrigation (*Kaaṯi-dhaaraa*)
- Coating of paste (*Aalepanaṃ*)

Diet

Diet is recommended to be heavy and reductive. (*guru ca apatarpaṉaṃ*). Items such as barley (*yava*), green gram (*mudga*), millets like kodo millet (*koradooshaka*), little millet (*syaamaaka*), *uddaalaka*, honey (*madhu*) etc may be used.

A.H.Soo.14.36

HYPERCHOLESTEROL-EMIA (FAT AND *MEDAS*)

- It is a fat derivative and hence connected to *medas*.
- Type of fat which is inconsistent/unbinding with tissues (*abaddha-medas*) gets involved.
- Reduction of bio-fire (*agni-maandyaṃ*) play the major role
- Increase of properties of wastes (*malabhoota guṉaadhikyaṃ*) and obstruction of channels (*sroto-rodhaṃ*) result.

C.Ni.4/7; C.Saa.6/17

Management

- Correction of functions of bio-fire (*agni*)
- Removal of the undigested factor (*aama*) and obstruction of channels (*sroto-rodha*)
- Treatment of aamavata / reduction of fat (*medo-hara-kriyaa*)
- Diet regulation

Medicines

- *Shaṯdharaṉaṃ coorṉaṃ*
- *Vyṣvaanara coorṉaṃ*
- *Vyoshaadi-gulgulu coorṉaṃ*
- *Triphalaadi coorṉaṃ*
- *Mahaa-tiktakaṃ kashaayaṃ*
- *Gulgulu-tiktakaṃ kashaayaṃ*
- *Dhaanyakaadi kashaayaṃ*

Treatment procedures

- *Medo-hara-vasti*
- *Panca-tiktaka-vasti*
- *Vaitaraṉa-vasti*
- *Maadhu-tailika-vasti*

DIABETES (*PRAMEHAM*)

It is a disease vitiating the body (*vapu*), resolved kapha (*kleda*), sweat (*sveda*), fat (*medas*), plasma (*rasa*) and flesh (*aamisha*). (A.H. Ni. 10)

Kapha having liquidity in excess is the humor (*dosha*) involved. (Caraka Ni. 4)

Defective functions of metabolism (*agni*) interacting with unctuous property (*snigdha guna*) of kapha and pitta leads to excessive formation of *kleda* which drains into kidneys and expelled out through urine. (C. Ci.4)

DISEASE PROGRESSION

The disease process leads to qualitative changes in tissue level resulting depletion.

Kapha and *medas* increase in quantity and decrease in viscosity (*saandra*) which later get mixed with the *kḻeda* in circulation. *Agni* becomes more impaired gradually.

Kapha the basic support of the constructive elements which is massively got depleted into the form of *kḻeda* as above and is excreted through urine.

(A.H. Ni.10.5)

Treatment (*kaphajam*)

Purification (*sodhanam*): induced vomiting (*vamana*)

Mitigation (*ṣamanaṃ*) / Reduction (*langhanaṃ*):

Formulations and drugs -

- *Lodhraadi kashaayam Pathaadi kashaayam Gaayatryaadi kashaayam (A.H.)*
- *Hareetakee Katphalam, Mustaa, Lodhram*
- *Paathaa, Vidangam, Arjunam, Dhanvanam*
- *Haridraa, Daaruharidraa, Tagaram, Vidangam*
- *Kadambam, Saala, Arjunam, Deepyakam*
- *Daarvee, Vidangam, Khadiram, Davam*
- *Suraahvaa, Kushtham, Agaru, Chandanam*

Treatment (*pittajam*)

Purification (*sodhanam*): purgation (*virecanam*)

Additive treatment (*santarpanam* - minimal)

***Samanam:* Formulations and drugs**

- *Useeradi kashaayam, Patolaadi kashaayam, Lodhraadi kashaayam (A.H.)*
- *Useeram, Mustaa, Aamalaka, Abhayaa*
- *Mustaa, Abhayaa, Padmaka, Vrkshaka*
- *Nimbam, Arjuna, Aamraata, Neelotpalam*
- *Sireesham, Sarja, Arjuna, Kesaram*
- *Priyangu, Kimsukam*

Treatment (*Vaataja*)

Purification (*sodhanam*): Not advised

Additive treatment (*santarpanam*): Not advised

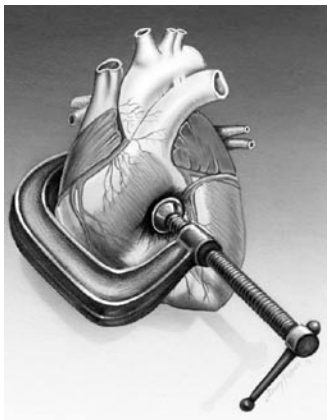
Mitigation (*samanam*): Formulations and drugs -

- The formulations and drugs which are prescribed for *pittaja* and *kaphaja meha* are to be formulated as medicated oils and ghees.
- *Dhanvantara ghrtam, Kalyaanaka ghrtam*
- Decoctions and powders with general indications could be used

Summary

- Eliminate and reduce excess formation of *kleda*
- Correction of *agni* in different levels
- Supplement the *dhaatus*
- Rejuvenation therapy (*rasaayana cikitsaa*)
- Food regimens and exercise

HYPERTENSION



- Blood pressure is essentially the pressure exerted on the walls of the vessels by the flow of blood.
- *Vyaana* a moiety of vaata which is situated in heart (*hrdaya*) moves fast throughout the body and along with *praana* controls the cardiovascular functions of the human body.

(C.Vi.5.13; C. Ci 15.25; A.H.Ni.15.23)

Influencing factors

- Defective functioning of *vyaana* and *praana* due to expansion (pitta) and congestion (kapha).
- Decreased elasticity of the vessels due to roughness (*kharatva*) and *staimityam*
- Psychic state

Pathogenesis

- Vitiated by *ushna* and *rooksha* properties, *vyaana* vaata attains expansion along with the change in the consistency of vessels, thus producing increased pressure inside the vessels.
- The vitiation occurs due to excess walking, incompatible food habits, too much physical and mental exertion, fear, pleasure, grief etc.
- This could happen due to impaired metabolism (*teekshnaagni/ vishamaagni*)

C.Vi.5/13

- Vitiated by cold (*seeta*) and unctuous (*snigdha*) properties kapha causes resistance to *vyaana*, thus producing altered consistency and increased pressure inside the vessels.
- The vitiation occurs due to incompatible food habits, dyspepsia (*ajeernam*), sedentary habits etc.
- This could happen due to impaired metabolism (*mandaagni*)

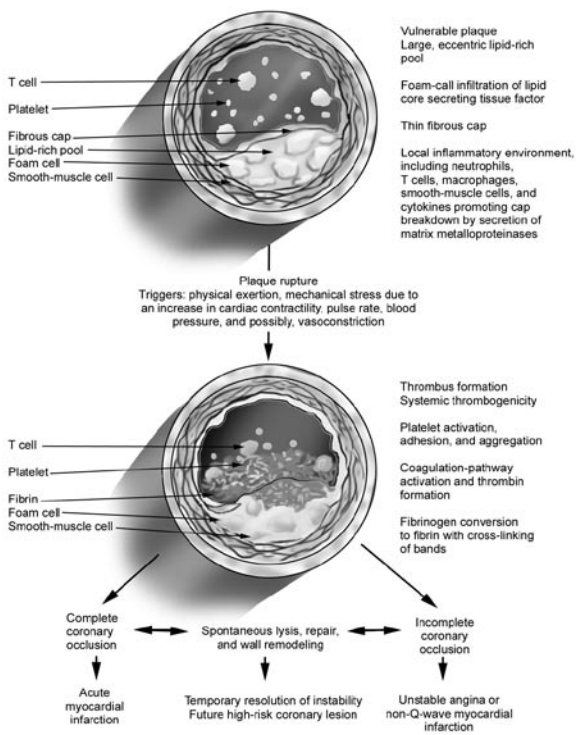
C.Ci.15/45

Management

- Correction of functioning of *praana* and *vyaana* (*anulomana*)
- Removing the obstruction/ resistance in the *srotas* without producing *kaphotklesa*.
- Correction of *agni* (metabolism)
- Medicines/procedures mitigating kapha
- Rejuvenation - checking ageing (*rasaayana*)
- Removing the *raktaavrtatva*.

Medicines

- *Gandharva-hastaadi kashaayam*
- *Rasonaadi kashaayam*
- *Ashtavargam kashaayam*
- *Nayopaayam kashaayam*
- *Vidaaryaadi kashaayam*
- *Draakshaadi kashaayam*
- *Brhathyaadi kashayam*
- *Vaisvaanara coornam*
- *Triphalaadi coornam*
- *Avipatti coornam*
- *Parthaarishtam*
- *Dasamoolaa-hareetakee*
- *Silajit*



PRINCIPLES OF CLINICAL YOGA



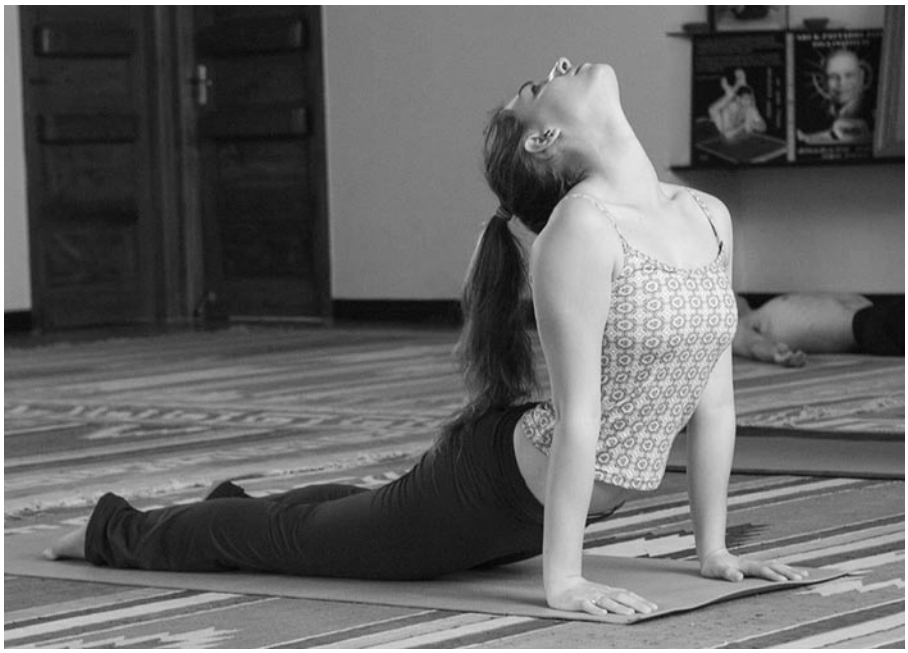
Dr. K.V.Dilipkumar
Professor, V.P.S.V. Ayurveda College, Kottakkal.

The prime objective of Yoga is the personality development of human being. It is possible to transform man to his highest state of existence through various yogic practices. None of the treatises of yoga pronounces it as a treatment system. However, since last century, yoga is emerging as a health care system too. Many yoga centers around the world are now offering treatment for various ailments. Government of India has officially included yoga as one of the indigenous systems of medicine under the department of AYUSH (Ayurveda, Yoga, Unani, Siddha and Homeopathy).

Ayurveda describes the role of Yoga in the management of mental pollutants (*manodosha*) viz., *rajas* and *tamas*. Major classical texts on Yoga have not described elaborately on therapeutic role of Yoga. However Yogavaasishṭha has adequately explained the concept of health and disease. Concept of health according to yoga is framed on a holistic view of human existence, i.e., *pancakoṣa*.

Theory of *Pancakoṣa*

Indian philosophers investigated the human being through five levels of subtleties varying from the gross layer, such as the physical layer which they called the *anna-maya-koṣa* to



the subtlest layer of true human nature of bliss i.e., *aananda-maya-kośa*. Taittireeyopanishat describes the process of self analysis of these layers (*panca-kośa-viveka*) to discriminate between the self and the non-self. These layers veil the self. We need to identify each of these properly, so that we can see them in right perspective, and thus negate our notion that these layers are our real self, and thus this very discrimination helps to unveil the real self. Self is revealed as that which exists beyond the five covers (*panca-kośa-ateeta*).

Anna-maya-kośa

Anna-maya-kośa is the first 'layer' of our personality and is the only directly perceivable component of living being. Whatever we perceive as gross physical body through our sense faculties are part of *anna-maya-kośa*. This layer of our personality is made up of the essence of food (*anna-rasa*), and it grows because of this essence. At the end it goes back into this food alone. *Anna-maya-kośa*, is made up of inert matter and it later goes back into mud again[1].

Praaṇa-maya-kośa

The word *praaṇa* when roughly translated means energy. We can experience the existence of an energy-providing layer for all our physical activities. Every bit of physical activity requires energy. Our breathing, heart beats, circulation, digestion etc. carry on almost continuously as an evidence of the presence of *praaṇa*. This physiological system which gives us energy backup is the *praaṇa-maya-kośa*.

Taittireeyopanishat explains that this layer of our personality is almost like soul of the *anna-maya-kośa*[2]. It is because of this *praaṇa* that we live. The moment *praaṇa* leaves the body all activities come to a halt. We also experience that proper regulation of



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praaṇa helps to cure many physical ailments.

Mano-maya-kośa

Taittireeyopanishat states that the soul of *praaṇa-maya-kośa is mano-maya-kośa*[3] . *Mano-maya-kośa* is that layer of our personality which we call as 'mind'. Mind is also called 'inner instrument' (*antaḥ-karaṇa*). This broadly has two parts - the mind and the intellect. The former constitutes the *mano-maya-kośa*, while the latter constitutes the *vijjnaana-maya-kośa*, which is explained as the fourth cover. Mind is basically the thought layer of our personality. Thoughts are prompted by memories, conditionings of likes or dislikes, various emotions or even wisdom. Thoughts which are attuned to our likes invoke positive feelings, while thoughts pertaining to our dislikes invoke negative emotions. The modern day epidemic of stress is basically a problem at the level of mind. During stress a number of negative emotions are accumulated without giving it a vent.

Vijjnaana-maya-kośa

The Upanishad reveals that the self of *mano-maya* is *vijjnaana-maya*[4]. *Vijjnaana-maya* includes our intellect and also the sense faculties (*jjnaanendriya*). This level is basically that of knowledge. Knowledge is our understanding and appreciation of the fundamentals of life, real source of joy and happiness, the reality of things outside etc. We undertake a lot of analysis at this level and finally discriminate what is right and what is wrong. *vijjnaana-maya-kośa* is dealing with the present i.e., here and now.

Aananda-maya-kośa

Aananda-maya-kośa is the soul of



vijjnaana-maya-kosa[II]. *Aananda-maya-kosa* determines our personality, attitude and aptitude. They are the out come of the drive of the seed of residual potencies or impression (*beeja of samskaara*) of previous birth. This layer operates at a super conscious level.

However, upanishat says that this is not the ultimate, because how much we 'experience' bliss (*aananda*), we basically remain as a seeker and are still in bondage. So awakening in *aananda-maya-kosa*, or the realm of 'experience' of *aananda*, is not the ultimate state. The final step is the realization that 'I am that'. I am the nature of bliss. One who has this knowledge is free. He or she alone is liberated.

Concept of disease in Yoga

Vaalmeeki describes the concept of disease in his work *Yogavaasishtha* as answers to the queries raised by Raama to Vasishtha.

"The pains that afflict the body are called the *vyaadhi*, whilst the causes that affect the mind are termed *aadhi*. The cause of present state of affairs (reason for birth) is the absence of ultimate realization of the character of soul and nature, want of mastery over our sense organs and the continuous growth of desire and egoism in the mind. And our delusion becomes intensified in us by forgetting the degradation of our state through such causes. With the growth of such delusion, the mental disease also conceals in us like the snows of winter. When the intense desires of a person begin to manifest themselves externally and the ignorance in him dominates, he performs fearful actions and these in their turn breed bodily diseases.

Etiological factors

The body is further subject to diseases through such actions as

1. The eating of unwholesome food
2. Living in unhealthy regions
3. Doing things at unseasonable hours
4. Injuries inflicted
5. Association with the wicked
6. Longing for improper things
7. Evil desires
8. Bad thoughts

Pathogenesis

The above etiological factors cause the tiredness of the body. *Praana* channels (*naadee*) become over distended and the orifices of the *praana* channels contract. These changes in turn interrupt flow of the beneficial *praana* throughout the body. This causes the body to wither. Gradually it manifest in the form of diseases in the body, just like the floods in a river during the different seasons. Thus, diseases are manifested as of primary origin (*aadhi*) and as secondary origin (*vyaadhi*) that arise through the five fold elements (*bhoota*)[II]. "

As per the *panca-kosa* theory it is understood that the seeds of diseases are sprouting at *vijjnaana-maya-kosa* in the form of ignorance. Gradually it affects the *mano-maya-kosa* as negative thoughts and stress. Subsequently the stress creates an imbalance in the *praana-maya-kosa* that leads to many functional disorders. Later it percolates into *anna-maya-kosa* to manifest physical disorders. Diseases at *mano-maya-kosa* are termed as *aadhi* and that manifest at body are termed as *vyaadhi*.

The above explanation of pathogenesis has a strong resemblance with that of explanation in Caraka-samhitaa of how cognitive error (*prajjnaaparaadha*) leads to physical and mental disorders. The description of *praana* channels and the obstruction of flow of *praana* are similar to that of *sroto-rodha* and *vimaarga-gamana* in Aayurvedic terminology.

Classification

Further, Yogavaasishtha describes that "the wise say that primary disease (*aadhi*) has two sub-divisions: Ordinary (*Saamaanya*) and essential (*saara*). The former includes the diseases incidental to the body, while the latter includes the rebirth to which men are subjected to. If the diseases which afflict this body return to their primal state then they are destroyed. Their primary causes being (bad) thoughts, if these thoughts are destroyed, all bodily diseases will

"When the mind is agitated, then the body also is agitated. And when the body is agitated, then there is no proper perception of the things that are in one's way. *Praaṇa* flies from its even path on to a bad road, staggering like an animal wounded by an arrow. vibrates everywhere at an unequal rate.

vijjnaana-maya-koṣa[8]. *Aananda-maya-koṣa* determines our personality, attitude and aptitude. They are the out come of the drive of the seed of residual potencies or impression (*beeja of saṃskaara*) of previous birth. This layer operates at a super conscious level.

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As per the *panca-koṣa* theory it is un-



management of stress induced ailments.

Stress induced ailments

A frequent occurrence of stress or failure in rolling back of stress reaction may turn into stress-induced ailments. One or the other organ of every individual is relatively weaker than the others. When a person is exposed to intensive, repeated or prolonged stress reaction the vulnerable organ will be affected adversely. The longest life span of the internal organs is on the assumption of using it in a regulated manner. When these organs are exposed to an excessive workload, the efficiency will be deteriorated. Initially there will be some disturbances in the mind like restlessness, irritability, anxiety, fear and insomnia. Later these disturbances gradually affect the physiology and develop hypertension, palpitation and tremor. As these disturbances further sustain, the organs are affected. In turn this will manifest as diseases like Asthma, Coronary Heart Disease, Diabetes mellitus, Migraine, Thyrotoxicosis, Arthritis and so on.

> 'I am the body and not the self'. As a result of ignorance we find pleasure in material objects. We become more attached when it gives pleasure and shows aversion followed by painful experience.

Stress according to Patanjjali

Patanjjali's Yoga-sutra uses the term kleśa to denote Stress[8]. The main objectives of Yoga are 1) Practice of *samaadhi* and 2) Minimizing the *kleśa* or Stress . Ignorance, egoism, attachment, aversion, and clinging to life are the five reasons for *kleśa* . Ignorance is the breeding site of egoism, attachment, aversion and clinging to life. Ignorance is the feeling that 'I am the body and not the Self'. As a result of ignorance we find pleasure in material objects. We become more attached when it gives pleasure and shows aversion followed by painful experience. Once we attach to some object, we yearn to possess them. This leads to *abhinivesa* a subconscious, hidden instinct to posses and cling to the objective world. *Abhinivesa* triggers many actions. They are the basis for many stressful environments. When the stress occurs, speed of body and mind increases. As a result, body is spending large amounts of energy. Gradually the efficiency is deteriorated and quality of the life is reduced.

Integrated approach of Yoga Therapy (Clinical Yoga)

An Integrated approach to the management of stress and stress induced diseases on the basis of *panca-kosa* theory was developed by Dr. H. R. Nagendra and Dr. R. Nagaratna of Swami Vivekananda Yoga Anusandhan Sansthan (SVYASA), Bangalore is well recognized in medical fraternity. A series of clinical research studies could substantiate the efficacy of Yoga therapy.

Initial step in Clinical practice of Yoga is to diagnose the imbalance caused to various *kosa*. The duration of the disease, personal details, family and occupational environment and details of physical examinations are also essential for formulating a detailed treatment protocol.

A judicious blend of all yogic practices needs to be applied as therapeutic practices at various *kosa*

MANAGEMENT AT DIFFERENT *KOSA*

AANANDA-MAYA-KOSA

The goal of treatment at *aananda-maya-kosa* is the renunciation of the accumulated fruits of action (*karma-phala*) of past and present births. This is achieved by adopting (*karma-yoga*) practice. One has to learn the ways of working in bliss and action in relaxation. This is the means of an absolute removal of stress induced diseases.

VIJJNAANA-MAYA-KOSA

Removal of ignorance to unravel the real Self will help to eliminate the entire stress. The intellectual analysis in a deeper level reveals the innate source of knowledge. This is the path of jjnaanayoga. The upanishat are dealing this knowledge at great length. Spiritual discourses, Health awareness, Psychotherapy and counselling are some of the useful tools to clear the ignorance of *Vijjnaana-maya-kosa*.

MANO-MAYA-KOSA

Constriction or narrowness of the mind is the reason for all negative emotions that leads to stress. Hence the ability to expand the awareness is a good measure to reduce stress. For e.g. While we watch vastness of sunset or a beautiful landscape, mind become quiet and relaxed.

Yoga teaches the technique of expansion of awareness. The expansion of awareness is emphasized in *dhyaana* and *samaadhi*. One should learn the techniques of expanding the awareness from pointed awareness to linear awareness, from linear awareness to surface awareness, from surface awareness to three-dimensional awareness, from three-dimensional awareness to group awareness and finally from group awareness to all pervasive awareness. As the awareness is expanding, ego reduces and stress disappears. *Dhyaana*, *samaadhi*, devotional sessions and group activities help to expand the awareness. An expanded mind will never embrace any negative emotions like irritability, anxiety, fear, anger, sorrow and depression.

PRAANA-MAYA-KOSA

Praanaayaama is the practice which is meant to tackle the imbalance at *Praana-maya-kosa*. One has to do *kriya*, breathing practices prior to *Praanaayaama*. In the practice of *kundalinee-yoga*, the major focus is on the balance and to energize the *praana*. *Praanaayaama* corrects the functional imbalance like haphazard breathing, hypertension, palpitation, tremor, hypersensitive reaction, over activity and auto immune reaction.

ANNA-MAYA-KOSA

Yoga practices like loosening exercises (*sithileekarana vyaayaama*), postures (aasana), micro exercise (*sookshma*

vyaayaama), purifications (*śuddhikriya*) and dietary modifications are addressing the imbalance of *anna-maya-kośa*.

These practices will prevent afflictions of body organs like lungs, heart and pancreas and in turn cure the ailments like asthma, coronary heart diseases and diseases of pancreas. *Haṭhayoga* is the yoga stream that considers body with prime concern.

Therapeutic measures: Work in bliss and action in relaxation, Spiritual discourses, Health awareness, Psychotherapy and Counseling expansion of awareness, *Dhyaana*, *Samaadhi*, Devotional sessions and group activities, *Praaṇaayaama kriya*, breathing practices *śithileekaraṇa vyaayaama, aasana, sookshma vyaayaama, śuddhikriya* and dietary modifications.

Clinical application of Yoga in various ailments can be formulated based on the integrated approach. Considering the pathogenesis of diseases, modifications can be introduced in selection of *aasana, praaṇaayaama*, meditation, *śuddhikriya* etc. Despite the variation in the practice, the underlying principle will remain the same.

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MANAGEMENT AT DIFFERENT LEVELS OF *KOŚA*

koṣa	*Aananda-maya-koṣa*	*Vijjnaana-maya-koṣa*	*Mano-maya-koṣa*	*Praaṇa-maya-koṣa*	*Anna-maya-koṣa*
Stream of Yoga	*Karma-yoga*	*Jjnaana-yoga*	*Raaja-yoga*	*Kuṇdalinee-yoga*	*Haṭha-yoga*
Therapeutic measures	Work in bliss and action in relaxation	Spiritual discourses, Health awareness, Psychotherapy and counselling	Expansion of awareness, *dhyaana, samaadhi*, Devotional sessions and group activities	*Praaṇaayaama kriya*, breathing practises	*śithileekaraṇa vyaayaama, aasana, sookshma vyaayaama, śuddikriya* and dietary modifications

EFFECT OF STRESS AT VARIOUS *KOŚA* LEVELS

Aananda-maya-koṣa	*Vijjnaana-maya-koṣa*	*Mano-maya-koṣa*	*Praaṇa-maya-koṣa*	*Anna-maya-koṣa*
1. Drive of residential impressions of previous birth (*beeja-saṃskaara*)	1. Ignorance 2. Ego	1. Over ambition 2. Competetion 3. Restleness 4. Irritability 5. Anxiety 6. Fear 7. Anger 8. Sorrow 9. Depression 10. Insomnia	1.Wrong direction of *praaṇa* 2. Wrong quantities 3. Constrictions of vessels 4. Block of vessels 5. Haphazard breathing 6. Hypertension 7. Palpitation 8. Tremor 9. Allergy 10. Over activity 11. Dyspnoea 12. Auto immune reaction 13. Thyroid dysfunction	1.Organs affected 2. Asthma 3. Coronary Heart 4. Diabetes 5. Migraine 6. Arthritis

KERALA AYURVEDA ACADEMY USA



Dr. Suhas Kshirsagar BAMS, MD (Ay.), Executive Director (Ayurveda) with students of Kerala Ayurveda Academy USA

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With the increasing demand for Ayurveda's sister science, Yoga, the audience for Kerala Ayurveda Academy's programs increases every day. Kerala Ayurveda Academy makes sense of Ayurveda for the common consumer, providing a platform for healing that is both accessible and profound.

SOAKED GREEN GRAM VAṬA

Kvathikaa is spiced boiled buttermilk. A paste of coconut or pulses is added to the buttermilk and mixed well. Fry turmeric and asafetida with ghee or oil in a frying pan. Pour buttermilk to the frying pan and simmer it to boiling point. (Do not boil much.) Add a bit of pepper powder while simmering. Salt is optional. This is *Kvathikaa*. *Kvathikaa* is also used as the base for other recipes. *Mudga-aardra-vaṭaka* (soaked green gram *vaṭa*) is an example of such secondary recipe.

Kaḍhee is a more medicated form of *Kvathikaa*. Black pepper, ajowan, dry ginger, cubeb, fire plant root, long pepper, root of long pepper, coriander, cumin, fennel, rock salt, sonchal salt, pomegranate, asafetida, chebulic myrobalan and Indian gooseberry are taken in equal parts and ground into a paste. The paste is mixed with buttermilk and boiled. This is called *Kaḍhee*. It mitigates vaata and kapha. It is appetizer and stomachic. It cures gas-trouble, undigested diarrhea, colic, cough and dyspnoea. This preparation is very wholesome and can be consumed as a drink or curry to the major food.

SOAKED GREEN GRAM *VAṬA*

Make *vaṭa* with green gram as we make *vaṭa* with black gram. These *vaṭas* are crumbled into a coarse powder. Fry asafetida, black pepper and cumin seeds and add to the powder. Pour some lime juice to the mixture and mix well. This mixture is steamed and then rolled into balls with filler. Fillers like coconut gratings and jaggery may be used. The balls are fried in oil and put into *kvathikaa*. These balls are called as *Mudga-aardra-vaṭaka* or *Paacaka*.

They are tasty, light and strengthening. They are carminative, nutritious and wholesome. They can be used to mitigate all the three humors. The medicinal quality of the dish can be amended by changing the fillings.



Soaked green gram vaṭa
Ingredients and quantity

De-husked green gram	– 2 00 g + 100g
Curd	– ½ lit.
Asafetida	– One pinch
Turmeric powder	– One pinch
Salt to taste	
Black pepper	– One teaspoon
Cumin seeds	– ½ teaspoon
Cooking oil	– ½ lit.
Mustard	– ½ teaspoon
Cocunut	– ½ (Grated)
Lemon	– half



Inauguration of new centre at Noida, UP by Bollywood actress
Ms. Mahima Chawdhary in the presence of Mr. Rakshay Dhariwal



Students from US Academy on completion of two weeks training at Kerala Ayurveda Hospital, Aluva with KAL personnels

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