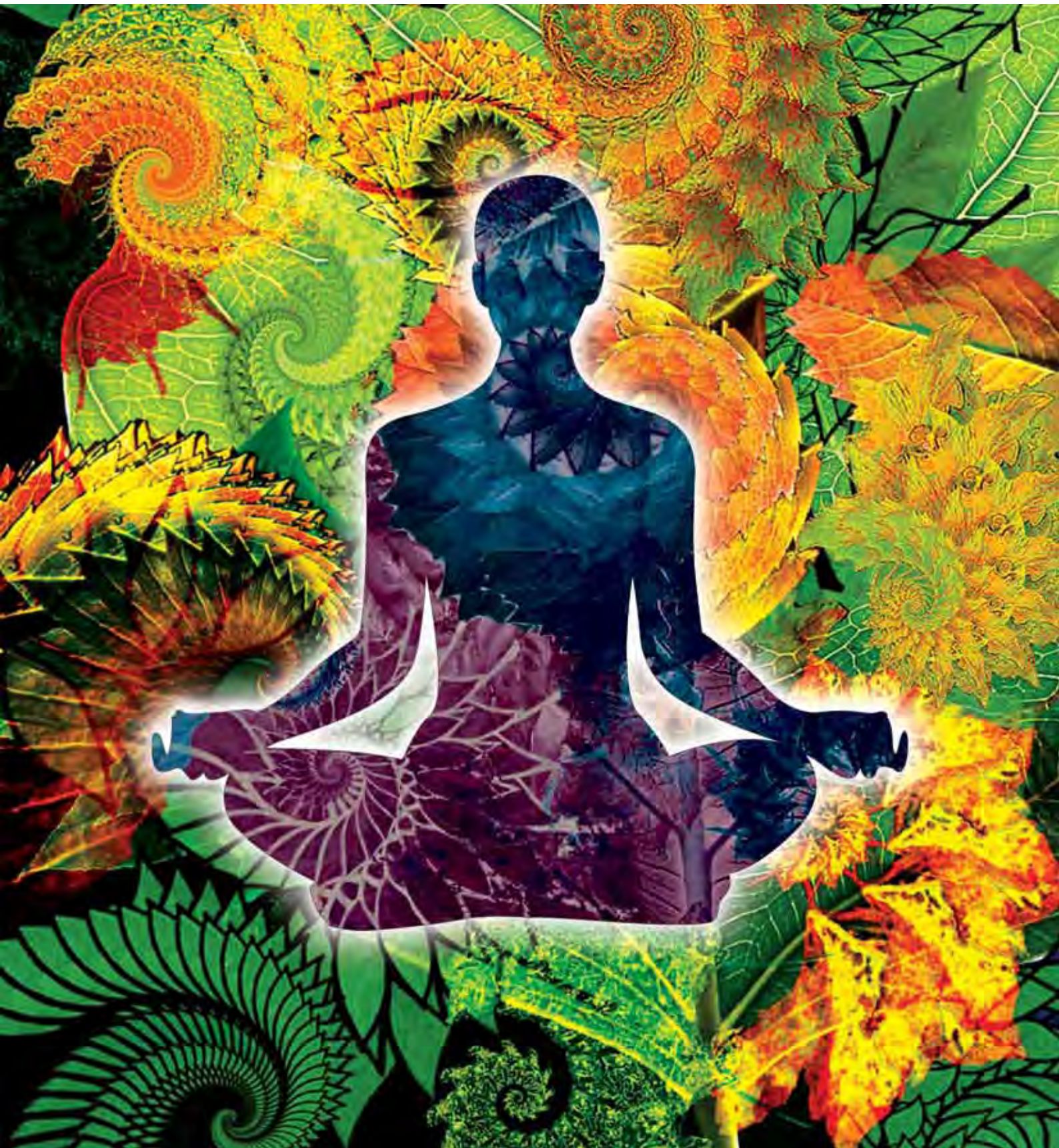
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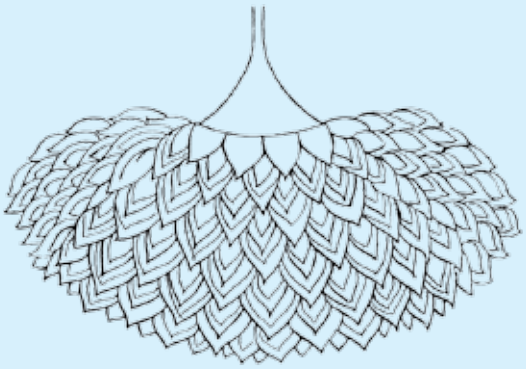
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पूर्वाभिभाषी सुमुखः सुशीलः करुणामृदुः।
(A.H.Soo.2.26)

Talk first, be good faced, be with good conduct and be kind and soft.

[On meeting an acquaintance, do not hesitate to initiate a conversation. Do not wait for him to start a conversation. Over reservation will not create good social relations. Always present a pleasant face. Be well behaved. Be kind and soft to others.]

Desclaimer
The views and opinions expressed by various authors are published in good faith and are not necessarily those of the publisher or editor.

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Cyavana has Grown Young!



Dr. M. Muthukrishnan B.A., D.A.M., M.S.A.M.

Cyavana-praasa, the well-known Ayurvedic formulation is named after its (first?) consumer, Cyavana. Caraka-samhitaa, to highlight the efficacy of the product, states that the aged sage, Cyavana, after its consumption, regained his youth. Vaagbhata said it differently - "the geriatric ascetic became appealing to the opposite sex". Conceivably this achievement made the world to remember him for ever. Ageing is a natural process and incurable. In that case, was Cyavana naturally old when his youth was restored? This question in mind prompted me to explore the relevant literature for an answer.

The earliest references to the story of Cyavana are in Rgveda.

"Ye from the old Cyavāna, O Naasatyas, stripped, as 'twere mail, the skin upon his body,
Lengthened his life when all had left him helpless, Dasras! and made him lord of youthful maidens."
(Rg Veda I-116-10)

"Ye with the aid of your great powers, O Asvins, restored to youth the ancient man Cyavāna."
(Rg Veda I- 117-13)

"Ye from Cyavana worn with age removed his skin as 'twere a robe.



So, when ye made him young again, he stirred the longing of a dame."

(Rg Veda V -74-5)

"Ye freed Cyavāna from old age and weakness" (Rg Veda VII-71-5)

"Ye made Cyavāna, weak and worn with length of days, young again, like a car that he had power to move." (Rg Veda X-39-4. Translated by Ralph T.H Griffith)

How did the Asvins deal with Cyavana's problem? Nothing about it is revealed in Rg Veda. The Satapatha-braahmana and the Mahaa-bhaarata have detailed versions of the story.

The relevant parts of them are reproduced here.

In Satapatha-braahmana

"Now the Asvins then wandered about here on earth performing cures. They came to Sukanyaa, and desired to win her love; but she consented not thereto.

They said, "Sukanyaa, what a decrepit, ghostlike man is that whom thou liest with; come and follow us!" She said, "To whom my father has given me, him will I not abandon, as long as he lives!" But the *rshi* was aware of this.

He said, "Sukanyaa, what have those two said to thee?" She told him all; and, when she had told him, he said, "If they speak to thee thus again, say thou to them, 'But surely, ye are neither quite complete nor quite perfect, and yet ye deride my husband!' and if they say to thee, 'In what respect are we incomplete, in what respect imperfect?' say thou to them, 'Nay, make ye my husband young again, and I will tell you!' " They came again to her, and said to her the same thing.

She said, "But surely ye are neither quite complete nor quite perfect, and yet ye deride my husband!" They said, "In what respect are we incomplete, in what respect imperfect?" She said, "Nay,

make ye my husband young again, and I will tell you!"

They said, "Take him down to yonder pool, and he shall come forth with whatever age he shall desire!" She took him down to that pool, and he came forth with the age he desired." (Satapatha-braahmana IV. 1.5. 8-12. Translated by Julius Eggeling)

In Mahaa-bhaarata

"Once on a time, O king, those celestials, namely the twin Asvins, happened to behold Sukanyaa, when she had (just) bathed, and when her person was bare. And seeing that one of excellent limbs, and like unto the daughter of the lord of celestials, the nose-born Asvins neared her, and addressed her, saying, "O thou of shapely thighs, whose daughter art thou? And what doest thou in this wood? O auspicious one, O thou of excellent grace, we desire to know this, do thou therefore tell us." Thereupon she replied bashfully unto those foremost of celestials. "Know me as Sarayati's daughter, and Cyavana's wife." Thereat the Asvins again spake unto her, smiling. "What for, O fortunate one, hath thy father bestowed thee on a person who is verging on death? Surely, O timid girl, thou shinest in this wood like lightning. Not in the regions of the celestials themselves, O girl, have our eyes lighted on thy like. O damsel, unadorned and without gay robes as thou art, thou beautifiest this wood exceedingly. Still, O thou of faultless limbs, thou canst not look so beautiful, when (as at present) thou art soiled with mud and dirt, as thou couldst, if decked with every ornament and wearing gorgeous apparel. Why, O excellent girl in such plight servest thou a decrepit old husband, and one that hath become incapable of realizing pleasure and also of maintaining thee, O thou of luminous smiles? O divinely beautiful damsel, do thou, forsaking Cyavana accept one of us for husband. It behoveth thee not to spend thy youth fruitlessly."

Thus addressed Sukanyaa answered the celestials saying. "I am devoted to my husband, Cyavana: do ye not entertain any doubts (regarding my fidelity)." Thereupon they again spake unto her, "We two are the celestial physicians of note. We will make thy lord young and graceful. Do thou then select one of us, viz., ourselves and thy husband, for thy partner. Promising this do thou, O auspicious one, bring hither thy husband." O king, agreeably to their words she went to Bhrgu's son and communicated to him what the two celestials had said. Hearing her message, Cyavana said unto his wife, "Do thou so." Having received the permission of her lord, (she returned to the celestials) and said, "Do ye so." Then hearing her words, viz., "Do ye so," they spoke unto the king's daughter. "Let thy husband enter into water." Thereat Cyavana desirous of obtaining beauty, quickly entered into water. The twin Asvins also, O king, sank into the sheet of water. And the next moment they all came out of the tank in surpassingly beautiful forms, and young and wearing burnished earrings. And all, possessed of the same appearance pleasing to behold, addressed her saying, "O fortunate one, do thou choose one of us for spouse. And O beauteous one, do thou select him for lord who may please thy fancy." Finding, however, all of them of the same appearance she deliberated; and at last ascertaining the identity of her husband, even selected him."

"Having obtained coveted beauty and also his wife, Cyavana, of exceeding energy, well pleased, spake these words unto the nose-born celestials: "Since at your hands, an old man, I have obtained youth, and beauty, and also this wife of mine, I will, well pleased, make you quaffers of the Soma juice in the presence of the lord of celestials himself. This I tell you truly." Hearing this, highly delighted, the twins ascended to heaven; and Cyavana and Sukanyaa too passed their days happily even like celestials."

(Section 123 Vana-parva translated by Kisari Mohan Ganguli)

It appears from the above that Cyavana underwent certain kind of immersion therapy *(avagaaha-cikitsaa)* in a medicinal pond. Nothing is mentioned about the rejuvenating medicine being given to him to consume. This differs with the statement of Caraka-samhitaa and Vaagbhata. It is possible that Caraka-samhitaa having experienced its extraordinary efficacy in cases similar to Cyavana's resorted to a promotional strategy for *Cyavana-praasa* as no other rejuvenating formula (like *Braahma-rasaayana*) has won so much popularity among the future generations as *Cyavana-praasa* did. It is also possible that the story was developed by the creative minds of the authors to go well with their profession. What we need to understand is that *Cyavana-praasa* is a dependable remedy for cases like that of Cyavana's.

What was Cyavana's case? Let us have a glimpse of his birth and growth.

He was son of Bhrgu and Puloma. When Puloma was pregnant, a love-struck devil carried her off. Puloma was frightened and her child slipped from her womb and therefore obtained the name Cyavana.

The child Cyavana grew up and was exceedingly in a resplendent form. After the thread ceremony he mastered all Vedas and *Vedaangas*, took permission from parents, went to Vaidoorya mountain area and settled near a lake called Payoshni for intense meditation. He entered a

state of super-consciousness and an anthill grew around him. Rest of the development is already described above.

As mentioned above, old and debilitated Cyavana was left helpless by all.

This heartless act of leaving a decrepit person that too an ascetic of a prominent lineage, to destiny is contrary to the ancient Indian culture.

Believably Cyavana was not suffering from natural old age but from an unusual one. This, together with his ghostly appearance, might have forced others to abandon him.

Cyavana's childhood was normal. After studentship he did not have the normal life of a youth. He skipped the life of a householder and spent his prime of youth in religious austerity. Failure to perform the duty of a householder amounts to violation of the Hindu tradition. Why did Cyavana act in this manner? Probably rapid ageing at adolescence might have deprived him the enjoyment of youth. All these and his cure and longevity by the use of *Cyavana-praaṣa*, a formulation rich in Vitamin C, point out to Werner Syndrome.

Werner Syndrome, also known as Adult Progeria, is a disorder characterized by generalized appearance of premature ageing. The signs and symptoms are lack of teenage growth spurt, graying of hair, hoarseness of the voice, thickening of the skin, diabetes mellitus, cataracts, hypogonadism, cancer, and atherosclerosis. Werner syndrome also causes a "bird-like" pink to the nose. Usually in such cases death is caused by myocardial infarction and cancer.
A study published in the FASEB Journal, (2010; 24(1): 158) reveals that mice genetically modified to express genes thought to cause Werner syndrome in humans had their age-related abnormalities reversed and lifespan increased to normal when vitamin C was put in their drinking water. These results indicate vitamin C might help people with Werner syndrome.

Ṛshi Cyavana represents the possibility of cure for Werner syndrome. Let his wonderful story be an inspiration to researchers. ●



Rasayana in Geriatrics



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According to *'Chaandogyopanishad'* lifespan of an individual is 116yrs. Old age, one of the three phases starts at the end of 64yrs. According to Susruta-samhitaa the old age is after 70 years. In the present era the life span of the person is decreasing due to the changes in life style. Rejuvenating drugs *(rasaayana)* those act on multi-level axes (psycho-somatic) thus attain prime importance in the current scenario. Saarngadhara presents an interesting scheme of cessation or loss of different factors during the course of life. It is given below: -

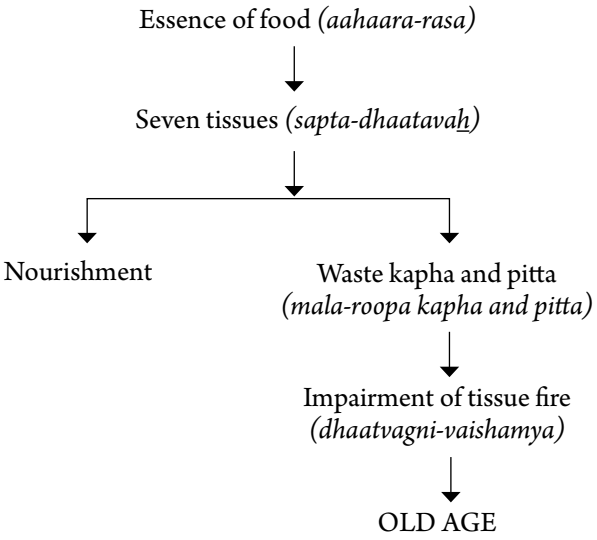
After 10 yrs – cessation of childhood.
After 20 yrs – cessation of body growth
After 30 yrs – decrease of fairness
After 40 yrs – decrease of understanding power
After 50 yrs – loss of skin texture and complexion
After 60 yrs – loss of power of vision
After 70 yrs – loss of fertility
After 80 yrs – decrease in vigor
After 90 yrs – decrease of intelligence
After 100 yrs – decrease in power of motor faculties *(karmendriya)*
After 110yrs – decrease in mind power
After 120 yrs – cessation of life

Some Common Geriatric Ailments:

Wrinkles of skin
Dementia
Emaciation due to ageing *(jaraa-sosha)*
Parkinsonism
Loss of sleep
Anxiety
Depression
Sensory neural loss
Loss of appetite
Mood disorders
Dyspnoea
Cough
Anemia
Arthritic disorders
Cataract etc. are the main complaints seen as senile problems.

Pathology *(Sampraapti)* of Ageing

The pathological sequence of ageing is given in the following flow chart: -





The hut for isolating the patient is constructed as three concentric structures. This reminds us of Hindu temples. The patient is admitted in the centre hut which is similar to the sanctum sanctorum of the temple. The building encircling the central hut lodges the physician and the attendants. Medicines and instruments are also kept in this building. The outermost building is intended for preparing medicines and food. All external agencies are permitted only up to the outer building.

Mental Health and Ageing

The process of ageing is gradual as the accumulation *(samcaya)* of waste forms of *(mala-roopa)* pitta and kapha is a gradual phenomenon. The psychic factor plays a vital role in controlling this process. The persons having intense grief, anger, stress etc are more quickly prone to ageing process. If we minimize the impurities of the mind by purification methods like yoga, meditation, yogic breathing exercises *(praanaayama)* etc., the speed of ageing can be delayed.

Thus for tackling the phenomenon of ageing two goals should be achieved.

1. The waste forms of pitta and kapha should be eliminated and the tissues should be nourished for the formation of excellent tissues *(prasasta-dhaatu)*.

2. Pacification of the mind which act as a catalyst for the process of ageing. In Saarngadhara-samhitaa it is stated that rejuvenation is that which destroys ageing and diseases due to ageing. *"rasaayanam ca tat jnjeyam yat jaraa vyadhinaasanam."* Thus it is imperative that rejuvenation medicines have a role in the management of ageing and age related disorders.

Method of Purification prior to Rejuvenation Therapy:

Purification therapy *(sodhana-cikitsaa)* is a must prior to the administration of rejuvenating drugs. Otherwise it will be like dyeing an impure cloth.

Preferably purgation *(virecana)* is advised in various degrees (mild or stong) according to the strength *(bala)* of the subject.

A medicinal powder is prescribed by classics for the purpose.

The ingredients are: -

Chebulic myrobalan *(hareetakee – Terminalia chebula)*

Sweet flag *(vacaa – Acorus calamus)*

Indian gooseberry *(aamalakee* – Phyllanthus emblica = Emblica officinalis)

Turmeric *(haridraa – Curcuma longa)*

Dry ginger *(sunthee – Zingiber officinale)*

Long pepper *(pippalee – Piper longum)*

Rock salt *(saindhava lavana – Sodium chloras impua)*

Jaggary *(guda)*

This powder is to be consumed with warm water and the dose should be prescribed according to the strength of digestive power *(agni-bala)* of the subject. In essence, the formulation is a purgative and will help to eliminate the waste forms of pitta and kapha those have accumulated through time as a result of tissue metabolism.

Rasaayana Drugs Suitable For Managing Ageing Phenomenon

The intake of drug should aim at two goals,

1) As a preventive measure for ageing.

2) Specific treatment to geriatric problems.

Rejuvenation as a Preventive Measure for Ageing:

- Daily intake of milk and ghee
- Daily intake of the powder of the three myrobalans *(triphalaa coorṇa)* triturated in the decoctions of the heartwoods of Indian kino tree *(Pterocarpus marsupium = asana)* and cutch tree *(Acacia catechu = khadira)* with honey or ghee.
- Daily use of honey (with cold water in the morning)
- Oil application on the body *(abhyaṃga)* with medicated oils like *Dhanvantara.*
- *Panjca-karma* therapy once in a year

Braahma-rasaayana may be taken at a mealtime *(anna-kaala)* followed by *shaashṭika* rice and milk.

Cyavana-praasa-rasaayana (1tsp with milk at bed time)

Jam like preparation *(leha)* made of the juice of Indian gooseberry, honey, sugar, ghee may be used as a preventive measure. The permutations and combinations of cold water, honey, ghee and milk may be used as a preventive measure. They may be used as a combination of either1, 2, 3 or 4 before morning food.

Treatment of specific conditions of aging

Disease	Medicines	After Drink *(anu-paana)*	Dosage
Dementia	*Braahma-r.* *Cyavana-praaṣa r.*	*Shaashtika, Milk* *Milk*	Can be taken as food for one mealtime or as 1 tsp at bedtime
Decrease of immunity	*Cyavana-praasa-r.* *Naarasiṃha-r*	Milk Honey + sugar	5g - 50 grams at bedtime
Cataract	*Triphalaa* powder	Honey + ghee	1tsp (5g) at bedtime
Depression and Anxiety	Powder of the root of white *saṃkha-pushpee,* licorice Indian spikenard & sweet flag	With milk	1 tsp twice daily
Anemia	Pepperization (See notes) *Naarasimha r.*	Goat's milk Honey + sugar	Upto 50g.
Cough & Dyspnoea	Pepperization (See notes) *Cyavana-praasa-r.*	Goat's milk Milk	Frequently According to digestion
Arthritic disorders	*Cyavana-praasa-r.* Pepperization (See notes) Garlic paste	Milk Goat's milk With 3 times milk	1 tsp twice daily 12 g
Loss of hair	*Naarasimha r.* *Cyavana-prasa r.* *Triphalaa r.*	Honey + sugar Milk Ghee + honey	1tsp at bedtime 1tsp at bedtime 1tsp at bedtime
Loss of libido	The powder of black gram etc.	Milk	12gm/day
Wrinkles	Oil massage with *Dhanvantaraṃ* or *Mahaa-naarayaṇa* oil or Juice of Aloe vera etc.	Nil	Quantity required

r. = rasaayana

Notes:

shaashṭika is a special type of rice. This rice may be cooked with milk and consumed.

Pepperization is done by administering long pepper in increasing doses to a maximum and then tapering off the dose to the starting point. The dose starts with 10 fruits of long pepper. This is increased by ten fruits every day till the tenth day. Then it is decreased in the same order.

Black gram etc. – Black gram *(maasha)*, long-leaved barleria *(ikshura = Hygrophylla auriculata = Asteracantha longifolia)*, land-caltrops *(ṣvadamshtraa = Tribulus terrestris)*, cowhage *(aatmaguptaa = Mucuna pruriens = M. purita)* and wild asparagus (*ṣataavaree = Asparagus racemosus*)

Rejuvenation therapy is not geriatrics. Geriatrics is concerned with the diseases of the old age. But rejuvenation is to be employed well before the old age, in childhood or youth. Moreover, for effecting intense rejuvenation the subject should be able to withstand the hardship of the treatment procedures.

Usually aging is considered to be effected by vaata. Here the author presents a new theory that aging is basically caused by kapha and pitta in their waste form.

Conclusion:

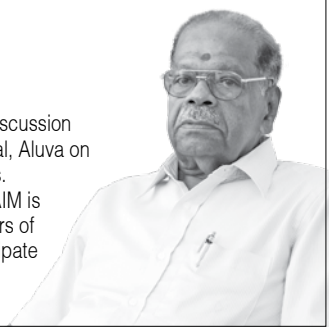
In old age there will be marked reduction of cellular metabolism, decreased immunity power, general weakness etc. The Psycho-Neuro-Immuno-endocrine axis (P.N.I axis) of the human body will get altered.

The above mentioned rejuvenation drugs are more potent for managing these abnormalities by enhancing the PNI axis of the body. There will be exclusive nourishment to the body fluid *(rasa-dhaatu)* which in turn leads to other clarified tissues *(prasaada-dhaatu)* formation. The sluggishness of tissue fire *(dhaatvagni-maandya)* also will be corrected by these drugs The purification therapy prior to the administration of rejuvenating drugs will help to eliminate the waste forms of pitta and kapha to a marked extent. Thus the rejuvenation therapy will help to manage the old age crisis by the following ways.

1. By nourishing the body fluid *(rasa-dhaatu)*
2. By rectifying the weakness of tissue fire *(dhaatvagni-maandya)*
3. By eliminating and alleviating the waste forms of pitta and kapha. ●

Headache (*Sirobhitaapa*)

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



Saastra-mathanam (churning of science) is a discussion program conducted at Kerala Ayurveda Hospital, Aluva on all Tuesday afternoons except the 3rd Tuesdays. Padmasree Dr. K. Rajagopalan MBBS, DAM, FAIM is leading the discussions. Doctors of KAH, doctors of nearby KAL outlets and scientists of KAL participate in the discussion.

Headache is termed *sirobhitaapa* and is mentioned in the chapter on diseases of the head in Ashtaamga-hrdaya (U.23). The term *sirastaapa* is also used (A.H.U.23.7). There are various diseases exhibiting the symptom headache. We should distinguish them. If not, treatment may go wrong.

Apart from the diseases mentioned in the chapter on diseases of head, headache is symptom in many other diseases. Fever, piles (esp. vaata type), anemia and *udaavarta* are examples. Whenever *apaana* is suppressed down *(adhah pratihatah)* headache is a symptom as the faction of vaata will forcibly bounce up. Headache may be associated with neurological diseases. When headache is obstinate, and not responding to usual treatment including *sirovasti*, if we give *Ciruvilvaadi* decoction with *Devadaarvaarishta* good results are obtained. This explains the relation of *apaana* with headache. Hence when headache is persistent we may try the treatment of piles.

According to modern medicine, there are many types of headache and is classified in many ways. According to Ayurveda, headache may be independent (primary) or dependent (secondary). Diseases that occur with independent pathology are independent *(svatantra-roga)*. Diseases that occur due to the pathology of another disease are dependent *(para-tantra-roga)*. According to modern medicine there is a three fold classification of headache – extra-cranial headache, intracranial headache and headache due to systemic disease. First we shall deal with extra-cranial headache. It is in vascular headache that migraine is included. Migraine, Temporal arteritis and Cluster headache are the three forms of vascular headache. Now there is another class called atypical migraine. It simulates migraine. Migraine is called *ardhaava-bhedaka* in Sanskrit. Before mentioning *ardhaava-bhedaka*, the humoral headaches are detailed in Ashtaamga-hrdaya. The etiology of headache according to Ashtaamga-hrdaya (U.23) is given below: -

1) Smoke
2) Direct sunlight
3) Snow
4) Water games
5) Excessive sleep
6) Excessive keeping awake
7) Excessive sweating of head
8) Anxiety
9) East wind
10) Suppression of tears
11) Crying
12) Drinking excessive water
13) Drinking excessive alcohol
14) Due to infestation of *krimi* (microbes and worms)
15) Suppression of natural urges
16) Abuse of pillows
17) Abuse of purification therapy
18) Abuse of oil massage
19) Looking down always
20) Unfamiliar smells
21) Polluted indigested materials *(dushtaama)*
22) Excessive speech

The signs and symptoms of headache due to vaata are the following: -

1) Sharp pricking pain in the

temporal region

2) Splitting pain in the parietal area *(ghaataah)*
3) Feeling of pain that the middle of the brows and forehead are falling out
4) Tinnitus
5) A feeling as though the eyes are pulled out
6) Feeling of rotation of head
7) Feeling as thought the joints of the head are disintegrated
8) The blood vessels pulsate excessively
9) Stiffness of neck and jaws
10) Photophobia
11) Running nose (rare)
12) Sudden onset and stoppage of pain (without evident cause)
13) Pain is softened by pressure, unction, fomentation and bandaging the head.

Such symptoms are mostly seen in *sooryaavarta*. (ibid below). Hemicrania *(ardhaava-bhedaka)* is a subdivision of headache due to vaata. It is migraine. The disease occurs once in a fortnight or in a month and subsides all by itself. When the disease is chronic and is increased it will destroy the eyes or ears. According to modern medicine, migraine occurs following an aura (as in the case of epilepsy). The aura may manifest in different ways. They used to give ergot toxoid for migraine. It is not given now. Our *Pathyaa-shadangam* decoction is good for migraine *(Saarngadhara-samhitaa)*. This should be given with jaggery. The indications are broad spectrum. They are: -

1) Pain in the brows
2) Pain in the temporal region
3) Earache
4) Hemicrania
5) *Sooryaavartam*
6) *Samkhaka* (mastoid headache)
7) Pain of falling teeth
8) Toothache
9) Night blindness
10) Opacities of the eye *(netra patala)*
11) Opacity of cornea *(netra-sukla)*
12) Ophthalmic pain

There are only seven ingredients in the decoction. They are the three myrobalans, chirata *(Andrographis paniculata)*, turmeric, neem bark and tinospora.

This decoction may be prescribed even in cases of cervical spondylitis. *Pathyaa-shadangam* and *varanaadi* are the two decoctions highly useful in headache. The former is administered in morning and the latter at night. All the three humors will be taken care of by the two decoctions. *Pathyaa-shadangam* is for vaata-pitta and *varanaadi* is for vaata-kapha. Instead of *varanaadi* decoction *varanaasava* may be used. *Pathyaa-shadangam* should not be converted to arishta or aasava as it is supposed to reduce pitta. Alcohol will increase pitta. *Varanaasava* may be used for sinusitis etc. If there is constipation some laxative also may be prescribed. Constipation may perpetuate headache. Nasal medication, if necessary, may also be employed.

In headache due to pitta there will be fuming sensation to the head, fever, sweating, burning sensation of the eyes and fainting. The headache will subside in the night and by cold measures. Even if the predominance is of pitta, kapha also will accompany the disease as head is an abode of kapha. To combat pitta and kapha bitter substances are to be used. Bitters reduce both. Even in vaata headache *Varanaadi* group of drugs are used which reduces kapha. But the formulation is intellectually converted to mitigate vaata. Milk is boiled with the medicines and the milk is churned to separate butter. This butter is medicated with sweet drugs and made into a prepared ghee. This is known as *Varanaadi-ksheera-ghrta*. Milk and sweet substances reduce vaata. Similarly ghee prepared with these drugs and milk and added with sugar also may be used in vaata type of headache.

In anemia when there is headache, old physicians give *Balaarishta* with *Lohaasava* without further investigations. There is no harm in giving this combination.

Trigeminal neuralgia is a disease with severe headache. Susruta-samhitaa includes this among diseases of head and calls it *ananta-vaatam* (U.25. 13,14, 15a). Vaagbhata considers it as a disease of eye and calls it *anyato-vaatam* (A.H.U.15.6, 7a). Vaagbhata states that the occiput *(manyaa)*, temples *(samkha)* or eyes are affected by pain. This occurs in trigeminal neuralgia as the nerve has three branches viz. maxillary, mandibular and ophthalmic. Many misunderstand the pain as toothache and have caused the extraction of many innocent teeth. There is some trigger zone and touching there may initiate severe shooting pain. Especially in some diabetics, gargling with cold water may evoke pain. Vaagbhata states that the disease is predominant in vaata. According to Susruta-samhitaa the disease is trihumoral.

Varanaadi ksheera-ghrta indicated in vaata headache is useful also in trigeminal neuralgia. The processing with milk, making butter etc. in this formulation renders the *Varanaadi* group of drugs more unctuous and capable of mitigating vaata. Basically the group reduces kapha. *Ksheera-balaa* is more effective against vaata and *sooryaavarta*.

Another severe headache is temporal arteritis. Ayurveda calls it *samkhakam*. This is severe than trigeminal neuralgia and diabetics above the age of 50 years are more prone to this. Diabetes causes neuritis and it will in turn cause

these diseases. Though fever and headache is a common combination of symptoms, there may be grave problems related to them. Pitta diseases are inflammatory conditions and serious diseases like meningitis and encephalitis may present as fever and headache. Especially if there is neck rigidity, meningeal involvement is to be thought of. It is better to suspect temporal arterites *(samkhaka)* in this context. Though it is trihumoral, according to Vaagbhata, it is predominant in pitta (A.H.U.23.16). Left untreated, the disease may cause sudden death within three days. At the same time, if treated immediately life may be saved. They give steroids to arrest the disease. It is true that steroids have adverse effects. But saving the life is more important.

Samkhaka is said to have involvement of blood (A.H.U. 23. 16). The disease usually occurs above the age of 50. The symptoms are very severe and the patient is restless and suffering. Severe burning sensation, pain, redness, delirium, fever, thirst and vertigo mentioned by Vaagbhata indicate that there is toxemia in the disease. Temporal arteritis is also known as giant cell arteritis. It is associated with polymyalgia in 25% of patients. There will be headache, temporal artery and scalp tenderness (e.g. on combing hair), jaw claudication and amaurosis fugax or sudden blindness in one eye. ESR and CRP will be raised. The elevated ESR indicates that it has some relation with rheumatism. Platelets and alkaline phosphatase will be increased and Hb will be reduced. In migraine, though the headache appears to be similar, ESR will not be raised. According to modern medicine temporal arteritis is a medical emergency.

We may give *Pathyaa-shadangam* decoction with *Siddha-makaradhvajam*. *Vaata-gajaamkusam* may be given.



Kaccooraadi powder with *Ksheera-balaa* may be applied as picu on vertex. Later *siro-vasti* etc. may be done. We may apply various classical treatments for vaata headache such as *nasya, picu* and *sirovasti*. Pouch fomentation with the leaves of adhatoda may be given. This is a practice not mentioned in books.

In the case of kapha headache there will be anorexia, heaviness of head and a feeling of coating on head. Reduction of the pulsation of blood vessels, laziness, stupor, dull ache, periorbital edema, itching of ear, vomiting and increase of pain at night are the features of kapha

headache (A.H.U.23. 10,11a). Periorbital edema *(soona-akshi-kooṭa)* may occur in many conditions. Piles and kidney diseases are examples. Here also serious diseases may be involved.

Projectile vomiting with headache may be due to brain tumor. Kapha causes swelling. This may be even tumor. [Tumor is the Latin term for swelling.] Brain tumors are difficult to cure with medicines. Astrocytoma and Glioma are the usual tumors of brain. The tumor cannot be completely removed and the residual part may grow again. At the same time we have certain medicines like *Rasagandhi-mezhuku* and *Varaṉaadi* decoction. The use of hogweed *(punarnava)* and purification procedures *(sodhana)* may also be employed. We get good result in many cases. But we could not claim that all diseases can be cured. The tumor may be primary or secondary. Primary tumor occurs directly in brain. Primary lesions of secondary tumors may be else where in the body. Some times the primary lesion could not be located. Eye defects such as diplopia or dimmed vision are usual.
A combination of projectile vomiting, visual defects and headache should suggest brain tumor and the case is worth imaging with MRI scan or CT scan for diagnosis.

Headache due to blood is more painful than that caused by pitta (A.H.U.23.11). In the involvement of blood, defects of blood vessels e.g. hemangioma are also to be considered. Hemangioma is congenital but may tend to grow later demanding more space.

Trihumoral head ache will have symptoms of all the above types in combination. Another type of headache mentioned is due to worms *(krimi)*. Maggot wounds were common previously due to unhygienic living habits and environment. Now they are rare and met with mostly in veterinary practice. Maggots may infest the nostrils and penetrate deeper. The classical concept is that these worms are generated by polluted blood and flesh and the condition develop into a tri-humoral state with blood. The maggots feed on blood and tissues. Maggot ulcers may occur also in the external auditory meatus.

Sooryaavarta is a disease mentioned only in Ayurveda. [A similar condition mentioned in modern medicine is different.] In frontal sinusitis the headache begins with sunrise. It gradually increases till 10 am. As the sun is hot and bright, the headache tends to diminish and at noon the headache is completely absent. It was very common formerly. Now it is rare. The disease mostly occurs in December. The patient comes in the morning. Allopathic treatment provides only temporary relief. The disease will surely repeat again. The disease could be cured only by nasal medication *(nasya)*. For nasal instillation *ksheera-balaa* is the best. Venesection is the classical treatment for the disease. But it is rarely practiced. According to the logic of texts *(tantra-yukti)*, here blood letting is not the first choice. Only after conducting all the treatments mentioned earlier, bloodletting is to be employed.

In Maadhava-nidaana there is a disease called *Sooryaavarta-viparyaya*. This is caused by pitta and vaata. There is yet another condition mentioned by Vijayarakshita in his commentary. In effect there are three types of headaches related with sun. They are: -

1. Starting at sunrise and ending at noon
2. Starting at noon and ending in the evening.
3. Starting at sunrise and ending with sunset.

Again the disease may be reduced either by cold or heat. That which is of pitta nature subsides with cold. That is predominant in kapha-vaata subsides with heat.

Chemical medicines *(rasaaushadhi)* may be utilized in headache. Mainly *Rasa-gandhi-mezhuku* is given. It is safe. *Rasa-sindooram* also is safe. But *Rasa bhasma* should be given with extreme care. Formerly in the application of *Rasa-gandhi-mezhuku* severe restrictions were stipulated. But in practice such strict regimens are not needed. In the case of drugs containing mercury gingivitis may occur and hence it is said that the medicine should be covered in palmyrrha jaggary and swallowed without touching the teeth. Now that *Rasa-gandhi-mezhuku* is available in capsules thee is no problem of touching the teeth. In case of gingivitis the drug should be withdrawn and the patient should be given milk. When the problem is over the drug may be cautiously tried again.

There are two types of fowl powder used traditionally by physicians of Kerala. One is for diseases of head and the other is for diseases of eye. The chicken is dressed and the visceral organs are removed. It is stuffed with medicinal powders and steamed over a grill with steam of herbal decoction. The closed steaming cooks the chicken. The cooked chicken is sun dried and powdered. This powder is used as medicine. We may try this fowl powder in brain tumor. Cock with black color, with black beaks and legs are to be used. The availability of such cocks is a problem today. ●

Wine, The Divine



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Modern medicine is now waging a war against all sorts of wines and liquors and is proclaiming that there is no medicinal value in alcohol in any form. What is the ayurvedic point of view in this regard? It is divided. It praises and condemns alcohol. To the ordinary mind this may appear to be a contradiction. Let us examine the details.

In the fifth chapter of the first part of Ashtaaanga-hrdaya liquids are detailed. In it there is a group of alcoholic beverages. The properties of alcoholic beverages are enlisted there. Accordingly alcoholic beverages *(madya)* are carminatives *(deepana)*, appetizers *(rocana)*, sharp *(teekshna)* and hot *(ushna)* in property and generate happiness *(tushti)* and nutritional status *(pushti)*. Alcohol is sweet *(svaadu)*, bitter *(tikta)*, acrid *(katuka)* and sour *(amla)* in taste and is sour *(amla)* in metabolic effect *(vipaaka)*. It is flowing *(sara)*. It is also with a tinge of astringency *(sa-kashaayam)*. It generates good voice *(svara)*, health *(aarogya)*, genius *(pratibhaa)*, and complexion *(varnakrt)* and is light *(laghu)*. It is wholesome for those who have lost



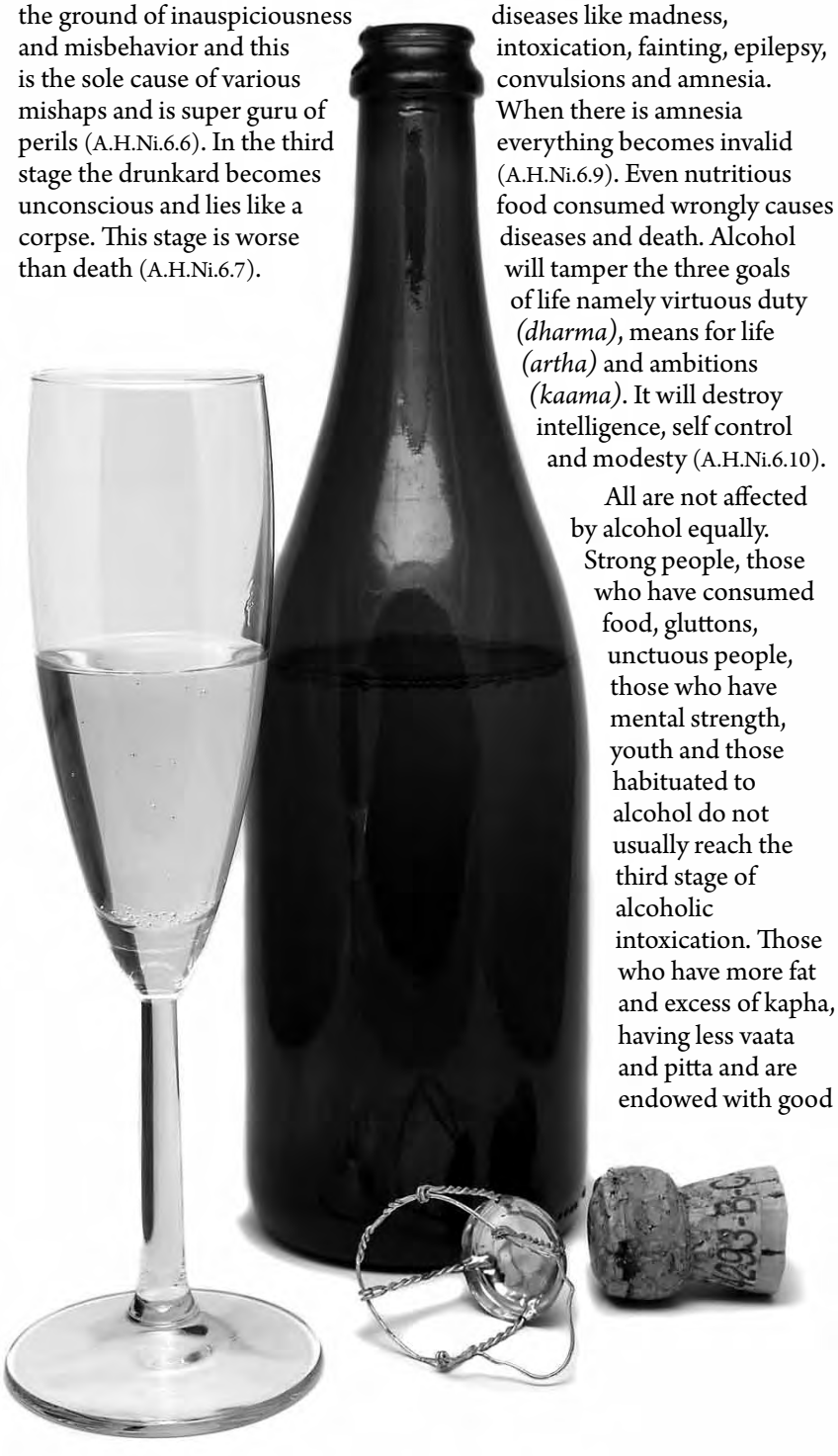
sleep *(nashta-nidraa)* and those who are somnolent *(ati-nidraa)*. But it pollutes pitta and blood *(pitta-asra-dooshanam)*. It is useful both for the lean and the obese *(krsa-sthoola-hitam)*, dry *(rooksham)*, minute *(sookshmam)*, and is cleansing the channels *(sroto-visodhanam)*, it mitigates vaata and kapha *(vaata-sleshma-haram)*. All the meritorious properties are obtained if the alcohol is consumed according to the norms and if not it is a poison (A.H.Soo.5. 62-69). This is important. If alcohol is used according to the norms one can reap the benefits and if not it is deleterious.

This is a basic approach of Ayurveda. Anything that can be useful can also be deleterious. It depends on the use. Proper use is beneficial whereas improper use is harmful. So what is the proper use of alcohol?

In the pathologic part *(nidaana-sthaana)* of Ashtaamga-hrdaya, the sixth chapter details about the pathology of alcoholic excess *(madaatyaya)*. The chapter begins with enumerating the properties of alcohol. It states that alcohol is sharp *(teekshna)*, hot *(ushna)*, dry *(rooksha)*, minute *(sookshma)*, sour *(amla)*, spreading all over the body without undergoing digestion *(vyavaayi)* and clear *(visada)*. Hence it is opposite to the immunity factor called *ojas* (A.H.Ni.6.1). In short alcohol will destroy the immunity. Alcohol with the ten properties which are against the properties of the immunity factor will depreciate immunity (A.H.Ni.6.3). More over, the ten properties of the alcohol are also present in poison and hence, alcohol is a poison. In alcohol the properties of poison are at a low level and hence derange the mind. In strong poisons these properties are at a higher level. Hence alcohol is a slow killer whereas poison kills immediately (A.H.Ni.6.2).

There are three stages of alcoholic intoxication. In the first stage itself mind is polluted. The second stage is a stage of euphoria (A.H.Ni.6.4). At the junction of second and third stage the mental pollutants *rajas* and *tamas* causes to remove all inhibitions and the person will behave without any self restraint (A.H.Ni.6.5). This stage is the ground of inauspiciousness and misbehavior and this is the sole cause of various mishaps and is super guru of perils (A.H.Ni.6.6). In the third stage the drunkard becomes unconscious and lies like a corpse. This stage is worse than death (A.H.Ni.6.7).

"One habituated to alcohol does not distinguish between duties and prohibitions, pleasure and pain and wholesome and unwholesome things. Hence why should the wise use alcohol?" is the question posed by Vaagbhata (A.H.Ni.6.9). He further states that confusion, fear, grief, anger and death stay in alcohol and it generates grave diseases like madness, intoxication, fainting, epilepsy, convulsions and amnesia. When there is amnesia everything becomes invalid (A.H.Ni.6.9). Even nutritious food consumed wrongly causes diseases and death. Alcohol will tamper the three goals of life namely virtuous duty *(dharma)*, means for life *(artha)* and ambitions *(kaama)*. It will destroy intelligence, self control and modesty (A.H.Ni.6.10).



All are not affected by alcohol equally. Strong people, those who have consumed food, gluttons, unctuous people, those who have mental strength, youth and those habituated to alcohol do not usually reach the third stage of alcoholic intoxication. Those who have more fat and excess of kapha, having less vaata and pitta and are endowed with good digestive power do not get easily intoxicated (A.H.Ni.6.11,12). On the other hand those who are over indulgent, angry or having indigestion get over intoxicated. Sour and dry wines cause over intoxication. Large quantities of alcohol cause over intoxication (A.H.Ni.6.13).

In the treatment of alcoholic excess, the Ayurvedic line is to give good alcohol. It may appear paradoxical. But the alcohol consumed early denatures to alkalinity and causes the symptoms of alcoholic excess. To neutralize this alkaline filth, acid is to be used. Of all the acidic substances, alcohol is considered to be the best and hence giving alcohol as a medicine will neutralize the excess alkalinity of the stomach (A.H.Ci.7.8).

In modern medicine also in the case of alcoholic accidents caused by the consumption of poisonous alcohol, usually mixed with wood spirit or methyl alcohol, the classical treatment is to provide pure ethyl alcohol. Ethyl alcohol is nothing but pure alcohol. Methyl alcohol combines with hemoglobin of the blood and forms methemoglobin. This hemoglobin is a stable compound and hence is incapable to perform gaseous exchange. Unlike oxyhemoglobin the oxygen in this hemoglobin is not easily released. This is the cause of death and deformity in the case of consumption of methyl alcohol. Ethyl alcohol when administered will compete with methyl alcohol and due to competitive inhibition will check the formation of methemoglobin. Thus pure alcohol prevents the damage by poisoned alcohol. Hence at least at special occasions alcohol is a Saviour – a life saving drug. Methyl alcohol actually causes acidosis and not alkalosis as maintained by Ayurveda. Similarly chemically speaking alcohol is not acidic. It neutralizes acids by forming esters. Acid when combines with alcohol produces ester. After detailing

the treatment of alcoholic excess, Vaagbhata engages in explaining the merits of alcohol. He states that a person consuming alcohol properly will not be affected by the diseases due to alcohol. With this statement the seer elaborates the proper use of alcohol (A.H.Ci.7.53). The points mentioned are (A.H.Ci.7.54-67) given below: -

1. Alcohol is the great energy of the divine physicians the Aṣvins. [Alcohol has medicinal values.]
2. Alcohol is the enthusiasm of the goddess of literature and arts, Sarasvati. [Alcohol enhances creativity of artists and writers.]
3. Alcohol is the provider of strength to the king of gods, Indra. [Alcohol increases the courage of warriors.]
4. Alcohol is the greatness of the god who maintains and per vades everything, Vishṇu. [Alcohol provides stimulation to move about.]
5. Alcohol is the arrow of the whale-flagged (Makara-dhvaja) cupid i.e., Kaama-deva. [Alcohol enhances libido.]
6. Alcohol is sacrificed in the mouth of the Brahmins and the sacrificial fire during a fire sacrifice called *Sautraamaṇi.* [Alcohol is consumed even by the priests and used in fire sacrifices.]
7. Alcohol is manifested with goddess of riches, moon, and the nectar during the churning of the milk ocean filled with all herbs by the gods and the devils [Alcohol is akin to the nectar.]
8. Alcohol is available in various forms such as honey *(madhu)*, honey based liquor *(maadhava)*, cocktail of beer *(maireya)*, sugarcane juice based liquor *(seedhu)*, jaggery based liquor *(gauḍa)* and medicinal liquor *(aasava)* with different grades of intoxication strength. [Alcohol presents itself in a variety of forms and strength to suit the consumer.]
9. By savoring alcohol, playful women *(vilaasinee)* become worthy of the name. [Those who are interested in sex will be more sexy by consuming alcohol]
10. On drinking alcohol even noble women become high spirited, with their body embraced by cupid, directs the mind of even the sages (with extreme self control) to somewhere unknown. [Alcohol removes social inhibitions and enhances



sexual desire.]

11. Alcohol clarifies the mind of modest women (of shyness) by its broken waves akin to the directions of the eyebrow and leads her and her mate to pleasure. [Alcohol wards off sexual inhibitions and provides sexual enjoyment to the partners].
12. By drinking alcohol to their satisfaction and cheered by heavenly beauties, soldiers give up their lives in battle. [Alcohol makes the soldiers brave and prompts them to fights inconsiderate of their lives.]
13. Those who are habituated to alcohol of various forms, daily savor it with pleasure as though they are consuming it for the first time. [People do not become weary of alcohol.]
14. Just by the sight of alcohol people will not be surpassed by grief, anxiety, restlessness and fear. [Alcohol wards off grief, anxiety, restlessness and fear.]
15. Assemblies, celebrations and garden parties will not shine without alcohol.
16. When alcohol is not available people lament memorizing its merit.
17. Even when turbid, alcohol is pleasing. When it is clarified it provides heavenly pleasure.
18. Alcohol when inside will make people think that even the king of the gods (Indra) is not well off like them. [Alcohol generates euphoria.]
19. Alcohol is with inexplicable pleasure.
20. Alcohol is too intimate as one's own self.
21. Under the influence of alcohol men imitate their wives in vari ous occasions.
22. The beloved becomes very dear under the influence of alcohol.
23. Alcohol is hailed as love, as sex, as word (literature) and nourishment.
24. The gods *(deva)*, devils *(asura)*, gypsy demigods *(gandharva)*, foreigners *(yaksha)*, demons *(rakshas)* and humans should judiciously use alcohol as per the norms. [Anyone may use alcohol judiciously.]

Apart from the above the additional points are also mentioned by Vaagbhaṭa.

1. Diseases due to fat, vaata and kapha do not affect those who drink alcohol according to the norms. The grave diseases caused by these cannot be cured without administering alcohol. (A.H.Ci.7.68)
2. There are conditions of the body where alcohol other than medically prepared is contraindicated. [In such conditions only medicated alcohol is permitted.] (A.H.Ci.7.69)
3. How does the meat of the arid and marshy lands digest without the accompaniment of alcohol? [Alcohol helps the digestion of meat.] (A.H.Ci.7.70)
4. What is the use of garlic that mitigates very grave diseases due to vaata without alcohol and meat? [Without alcohol and meat garlic is useless.] (A.H.Ci.7.71)
5. In the extraction of hidden foreign bodies, in surgical operations and in caustic and thermal cauterization how can the patient bear the trouble made by the surgeon without alcohol? [In these cases alcohol relieves the suffering of the patient.] (A.H.Ci.7.72)
6. There is nothing better than alcohol to ignite the digestive fire, to reduce grief and exertion of the patient and to provide health, strength and enhance nutritional status. (A.H.Ci.7.73)
7. Hence, those who want to protect life should consume alcohol always, self restrained and as wholesome to subordinates and dependents. Alcohol is the supreme means to attain virtues *(dharma)*. (A.H.Ci.7.74)

The norms of drinking alcohol are detailed below (A.H.Ci.7.75-88): -

1. After a bath, salute gods, the learned and teachers as per custom.
2. Satisfy the needs of all dependents and servants.
3. The drinking place should be sprinkled with fragrant water.
4. Occupy the drinking place proximal to the place where food is served.
5. The bed (sofa) for sitting should be pleasurable and properly covered with a bed spread.
6. The person consuming alcohol should be in company of friends, servants and wives.
7. Those who sing the merits of the person should engage in image boosting and cheering songs. [This is applicable to kings and lords.]
8. There should be dance and melodious songs of playful women accompanied by orchestra and jingles of hip bracing ornaments and quacking of playful birds (like swan).
9. Lovely damsels carrying various ornate earthen water pots studded with gems and gold and wearing attractive silk dresses should move simultaneously in rhythm with timid looks of frightened deer, capable of agitating the mind of even those in penance. These beautiful girls move about slowly because of the heaviness of their breasts and buttocks and also because of the

fear and reverence to their lord, but not staying and are attracting the minds of the young.

10. These slender girls are moving about simultaneously here and there, intoxicated with the elixir of youth, with playful gestures.
11. Cooled by fanning of palmyra leaves and lotus leaves, very cold, the liquor by seeing itself makes people susceptible to the cupid. What about tasting it?
12. Made fragrant with flowers of mango tree, camphor, musk, and jasmine, contained in glass shell, the rippling liquor will stimulate the body as the cupid.
13. First consume the *Taleesaadi* powder, or *Elaadi* powder which are cordial or formulations which are rejuvenating. Consume the liquor mixed with water and drink water afterwards.
14. One with will power and memory shall daily use alcohol, in appropriate quantity, considering all these with suitable compliments.
15. Drink the liquor with added beauty by the reflection of the eyes of the beloved (wife) akin to bloomed black lotus flowers and with the fragrance simulating that of her mouth attracting the flock of bees.
16. In this manner drink two glasses and serve to the companions. After that go to the dining place and consume food.
17. Eat food containing meat, bread, ginger, green leafy vegetables, sonchal salt and drink two or three pegs.
18. Those who wish to please women (by sexual intercourse) at night should not drink much.
19. As alcohol and sex depletes the immunity factor, after the sexual act one should take bed rest for some time.

If alcohol is consumed according to the above norms, it will not tamper the goals of life namely virtuous duty *(dharma)*, earning of means for life *(artha)* and fulfillment of ambitions *(kaama)*. (A.H.Ci.7.89).

This is the consumption of prosperity and is envied even by the gods. But if alcohol is consumed inconsiderate of the norms, it is the cause of loosing money and people will condemn him as a consumerist. Alcohol is created by the Creator as a bad master who is pleased only by proper service and angry and cause damage if the norms are not followed.



Constitution and drinking

Those who have increased vaata should consume alcohol after oil application, massage, bath, application of cosmetic creams and fumigation and should consume warm and fatty food. People with pitta constitution get easily intoxicated. But if various cold measures are taken and if sweet, cold and unctuous food is consumed, they may not get over intoxicated. People with kapha predominance should consume alcohol of normal temperature (neither warm nor cold). They should consume breads made of barley or wheat. They may eat meat of animals belonging to arid lands prepared with black pepper.

Alcohol prepared from flour of cereals or jaggery is apt for vaata constitution. For pitta the drink should be diluted with water and added with honey. For kapha wine prepared from grapes, honey or decoction of herbs *(arishṭa)* is to be used. People with excess of kapha should consume alcohol before food. Persons with pitta should drink it after food. People with excess of vaata may drink alcohol during food. Those who are of balanced humors may consume it exercising their preference.

Important

1. Classical Ayurveda describes only brewed alcoholic beverages. Distilled forms of alcohol like whisky and brandy were not prevalent in the period of compendia. To obtain stronger beverage, the supernatant clear part of the brewed beverage *(prasanna)* was collected.
2. Ayurveda uses mainly two types of alcoholic preparations as medicine. They are *arishṭa* and *aasava*. *Arishṭa* is prepared by fermenting herbal decoctions. *Aasava* is prepared either from juices or by adding herbal powders to boiled and cooled water and permitting fermentation. For example *Draakshaarishṭa* is prepared from decoction of dried red grapes (raisins). *Draakshaasava* is prepared from the fresh juice of red grapes.
3. Ayurveda never goes to the extremes. It follows the golden means. It presents the merits and demerits of things and offers the choice to the follower. Wine or de-wine is the option of the person concerned.
4. Ayurveda permits even unwholesome substances, but provides the guidelines to minimize their adverse effects so as to protect health.
5. Drinking by rules makes wine divine, violation of rules makes it devil. ●

SCIATICA (*Grdhrasee*) and its Ayurvedic Treatment



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The term Sciatica is applied in a somewhat imprecise manner to the conditions in which pain is experienced along the course and in the distribution of the sciatic nerve, that is to say in the buttock, back of the thigh, outer side and back of the leg and outer border of the foot. It is important at the onset to notice the limitations of the distribution and in particular to notice that the sciatic nerve does not supply any structure on the front of the thigh and so pain in this region or in the groin is not included in sciatica. The sciatic nerve is originated from the sacral plexus. It is the largest nerve in the body. Its terminal branches consist of two distinctive nerves, antagonist of each other the common peroneal (ext. poplitial) and tibial (int. poplitial) nerves. The former nerve arises from the posterior and latter from the anterior portion of the sacral plexus. Cases of sciatica, defined thus are common, and many of them have a prolonged course and other well described features. Until recent years, they were all confidently attributed to interstitial neuritis (sciatic neuritis) but now it is recognized that while a number of them are probably due to this cause, many are the result of irritation of one of the roots of the great sciatic nerve by the extruded nucleus of the ruptured inter-vertebral disc; and others are cases of referred pain in the sciatic distribution. The differential diagnosis between these different varieties of sciatica is frequently a matter of great difficulty and in fact in many cases it cannot as yet be made with confidence.

Sciatica is the syndrome, that the herniation of the nucleus pulposes of a lumbar inter-vertebral disc most commonly gives rise. The majority of cases give a history of injury at, or shortly before the onset of symptoms. The injury is commonly of the variety known as a strain of the back due to sudden bending, lifting of heavy weights or sudden movements of the back, as when striving to avoid a fall. Males are more commonly affected. In females child birth, especially with instrumental delivery, is an additional cause.

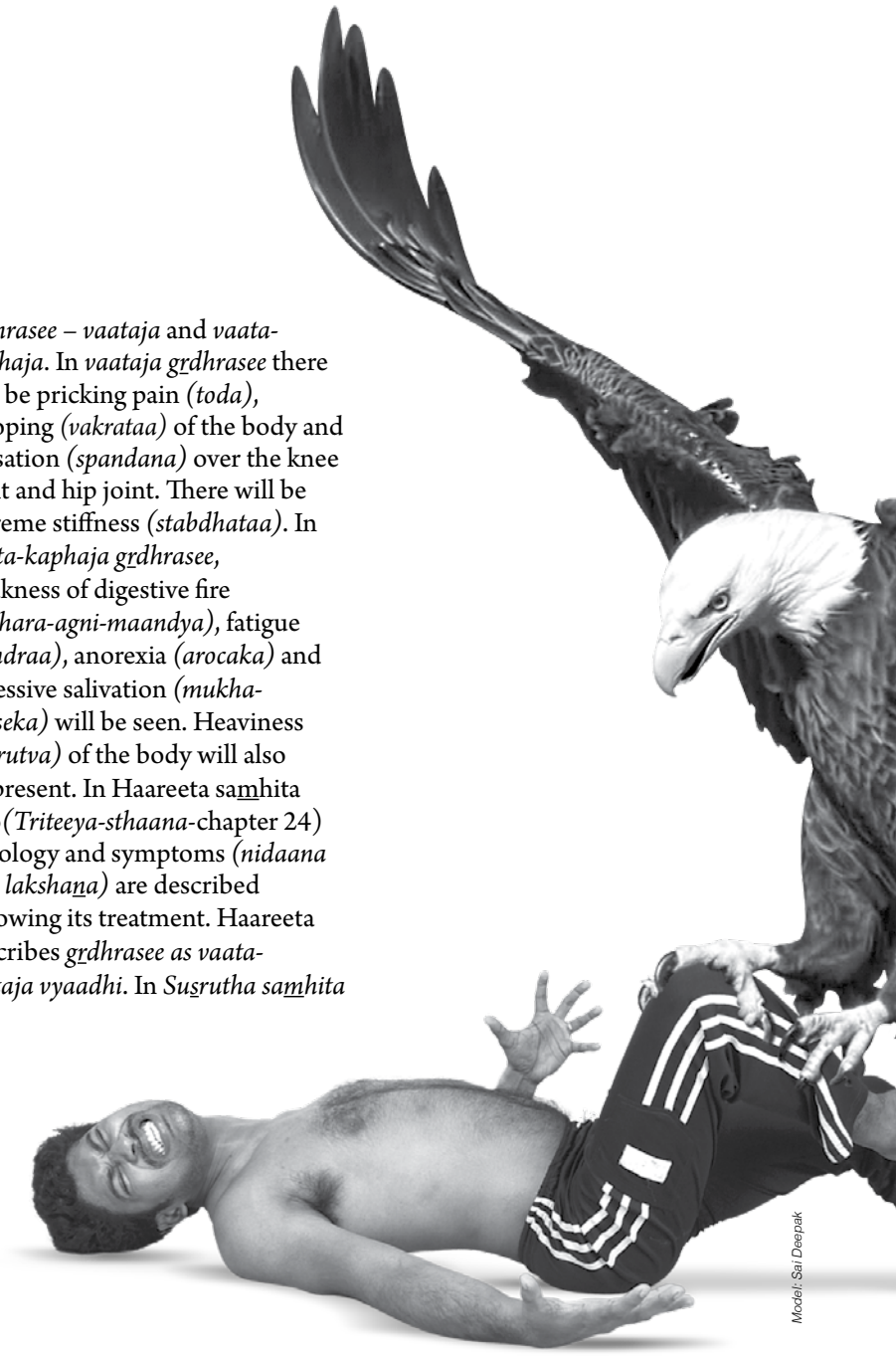
The outstanding feature of sciatica is pain. It begins in the small

of the back either at the time of the injury or after an interval of some hours, days or weeks. It may remain limited to the back. But in most cases it extends, after a variable interval on the back, down to the leg and possibly into the foot so that clinical condition becomes one of 'Sciatica'. The exact distribution of the pain in the leg depends on the spinal root which is affected. The pain is severe and is lancinating, aggravated by stooping, by coughing and sneezing and by turning on bed and relieved by lying still. Flexion of the extended leg at the hip is always painful – Lesague's sign – and the patient adopts an attitude of partial flexion of the affected limb at the knee and hip, which avoids tension on the sciatic nerve and its root.

The condition is said to be *grdhrasee*, where first hip, then waist, back, thigh, knee and calf are gradually affected with stiffness, excruciating pain and pricking sensations associated with frequent twitching due to vaata. If the disease is due to vaata and kapha there will be additional symptoms of stupor *(tandraa)*, heaviness of the body *(gaurava)* and anorexia *(arocaka)*. The patient affected with *grdhrasee* walks abnormally, more or less like an eagle, to avoid tension of the sciatic nerve and hence the name *grdhrasee*. The patient is unable to lift the leg. In *Ashtaanga-hrdaya* it is said that the nerve *(kandaraa)* which is going towards the foot *(paarshni)* is affected by vaata, the flexion and lifting of the leg is very difficult. When the patient suffers excruciating pain along with the above said symptoms the condition is named *'khalvee'*.

According to Bhaava-prakaasa, there will be numbness *(stambhana)* and different kinds of pain in the lumbar region, buttock, thigh, patellar and calf region. There is also vibration *(spandana)* of the nerve in the above parts of the body.

There are two varieties of *grdhrasee – vaataja* and *vaata-kaphaja*. In *vaataja grdhrasee* there will be pricking pain *(toda)*, stooping *(vakrataa)* of the body and pulsation *(spandana)* over the knee joint and hip joint. There will be extreme stiffness *(stabdhataa)*. In *vaata-kaphaja grdhrasee*, weakness of digestive fire *(jathara-agni-maandya)*, fatigue *(tandraa)*, anorexia *(arocaka)* and excessive salivation *(mukha-praseka)* will be seen. Heaviness *(gurutva)* of the body will also be present. In Haareeta samhita also(*Triteeya-sthaana*-chapter 24) aetiology and symptoms *(nidaana* and *lakshana)* are described following its treatment. Haareeta describes *grdhrasee as vaata-raktaja vyaadhi*. In *Susrutha samhita*



Model: Sai Deepak

Kerala Treatment for Sciatica

In pain of leg originating from the lumbar and sacral vertebral area, a strong purgative is given to the patient as a classical treatment by ayurvedic physicians of Kerala. For effecting purgation 15 to 30 ml of castor oil is mixed with 30 ml juice of leaves of five leaved chaste tree *(nirgundee = Vitex nigundo* Linn.) and is given. This will reduce the edema of the soft tissues around the vertebral column. *Prabhanjana-vimardana* oil is also applied in the lumbar region. This is effective in all sorts of neurological affections of the lumbar and sacral spine and is thus ideal in the treatment of sciatica.

vaatavyaadhi nidaana, grdhrasee is mentioned as a disease in which two great nerve trunks emanating from below the lower extremity of the thigh and reaching down to the bottom of the insteps and toes,



become stiffed or pressed with the deranged *vaayu* and thus deprive the lower extremities of their power of locomotion.

Grdhrasee is included in *'naanaatmaja rogas'* by Caraka. He says that there are two types of diseases – *saamaanya* and *naanaatmaja* roga. *Naanaatmaja roga* means specific diseases of the specific doshas. Here *grdhrasee* is a *vaataja naanaatmaja roga*, as vaata is the root cause of the disease. There are eighty *vaataja naanaatmaja rogas*, of which *grdhrasee* is the ninth one.

Etiology of *grdhrasee* is not specifically mentioned in any of the ancient texts. So it can be presumed that the general aggravitation of vaata may be the cause of *grdhrasee* also.

The vaayu gets vitiated by excessive traveling by car or scooter or driving continuously for hours, lifting of heavy weights continuously or by an inordinate indulgence in things which are possessed of the specific ability of deranging or aggravating that vital principle-vaata. On the other hand an over indulgence in such articles of food as are hot in potency or in a surfeit, largely composed of sharp acid or alkaline substances or an exposure to heat tends to vitiate the blood of the organism which on account of such contamination, tends speedily obstruction of the passage of vaayu. The vaayu thus impeded in its course, becomes more and more agitated. Localisation *(sthaana-samsraya)* takes place on the *naadi* which goes to foot *(paarshni)*. This particular *naadi* is *grdhrasee naadi*, being the seat of *grdhrasee roga*. Slight variations can be seen in the description of the signs and symptoms of the *grdhrasee* by the various aacaaryaas of Ayurveda.

Regarding the treatment no detailed description of *grdhrasee* is seen in any of the ancient texts. Susruta prescribes general *vaataroga* treatment for *grdhrasee*. He also mentioned about blood letting *(raktamoksha)* by venesection *(siraa-vedha)*, of the vein situated between tendocalcenius *(kandara)* and malleolus *(gulpha)*. Neither Vaagbhata nor Caraka has mentioned any specific treatment for *grdhrasee*. As a *vaataroga* general



SLR test

Is the pain in lower limb sciatica? You can check it yourself. Just lie on a cot with face up. Keep your legs straight. Arms could rest on your sides. Now try to elevate the affected limb without bending your knee. If it is sciatica at one point of elevation there will be a sudden catching pain running from the leg to your hips through the back of the leg. It shows that the pain is in the course of sciatic nerve and you can confirm sciatica. This test is called SLR test (Straight Leg Raising test).

vaataroga treatment can be done in this disease also. If vaata is the only humor which gets vitiated without any kind of occlusion *(aavarana)*, it should be treated first with oral administration of unctuous preparation such as ghee, fat, marrow and oil. The person when overstrained by the oleation *(snehakarma)* therapy should be comforted by rest for a while and should again be oleated with milk and meat juice of domestic, wetland and aquatic animals, mixed with unctuous article or with milk pudding. When he is well oleated he should be subjected to sudation *(svedana)* treatment as required.

Nalee-sveda, samkara sveda or such other varieties of *svedana karma*- in which unctuous articles are used – can be done according to the suitability and condition of the patient with the aid of oleation and sudation *(snehana and svedana)* treatment. Even a distorted and stiffened limb can be slowly brought back to normalcy, just as it is possible to bend according to ones desire even a dried piece of stick by such measures. Stiffness, pricking pain, aches, horripilation, and similar other conditions can be quickly cured and the flexibility of the part restored by means of sudation. Unction and fomentation will remove all the abnormalities of the body due to the aggravation of vaata. The unction procedure replenishes the diminished tissues, increases the vitality and strengthens the digestion (bio-fire). Unction and sudation should be employed repeatedly. This is to soften the viscera. This will prevent the recurrence of the disorder of vaata in the viscera.

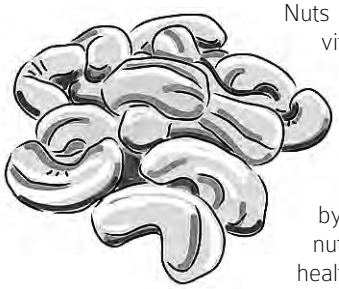
If due to excessive morbidity, the aggravated humors do not subside by the above procedures, the patient should be given purgatives mixed with fatty substances so as to eliminate the accumulated humors. For this, *Tilvaka ghrta* or castor oil with milk may be administered. These are beneficial and expel the vitiated humors. By excessive use of unctuous substances, salty, hot and acidic food, wastes accumulate and occlude alimentary canal. This will obstruct vaata and normal peristaltic movement has to be stimulated to expel the obstruction. Bhaava-misra, the great master of Ayurveda, states in his compendium that *grdhrasee* patients should be treated with emesis and purgation. (Bhaava-prakaasa – Vaata 133-135). After emesis and purgation to overcome the phase of rawness *(aama-avasthaa)* drugs that increase bio-fire are to be administered. Once the bio-fire is ignited, fatty enema may be given. Haareeta, another seer, prescribes sudation and bloodletting. *Raasnaa-panjcaka* decoction and application of medicated oils that mitigate vaata are also advised. The powder of wild asparagus *(sataavaree)*,sida *(balaa)* and long pepper *(pippali)* with castor oil may be taken. Saarngadhara prescribes *Ajamodaadi* powder. Thermal cauterization is also advised. In Yoga-ratnaakara, it is said that the decoction of the greater five roots *(mahaa-panjcamoola)* added with the powder of turpeth *(trivrt)* is an effective remedy for *grdhrasee*. ●

Nuts to tighten you



Nuts were conventionally thought of as rich sources of protein and fats and were considered as rich food. But we became wiser. We had notions of cholesterol and we started condemning all the nuts and expert corners advised us to avoid all sorts of nuts from our diet especially when we have a tendency to be obese.

Things have changed now. Of late, researchers tell us that the fat in the nuts is good for our health. The oils in the nuts and seeds are rich in omega three fatty acids. These fatty acids are anti-inflammatory and help to hydrate the skin from inside. They help to maintain the integrity of cells. They also increase the good cholesterol in blood and decrease the bad cholesterol. Nuts are also rich sources of vitamins and nutrients. If the nut can provide nutrition to the sprouting plant, why cant' they provide nutrients to us too? Forget the out dated wisdom advocated by dieticians. Relish a fistful of nuts every day and enhance your health.



On Yoga....

To The Beginners and Those yet to Begin



Dr. Harikrishnan P.C. (M.Sc., B.A.M.S., PGDY)
Chemist, R&D, Vishnu Ayurveda College and Pharmacy, Shoranur

Nowadays yoga is sidelined as an alternative stress reduction technique. It is of course a stress reduction technique, but reducing it to that level just misses very much. Serious yoga practitioners realise that although some benefits may be noticed after a single yoga class, its most profound effects are attained over years or even decades. Some ancient texts say that the preliminary effects like yoga's healing capacity or even the eight glories of yoga *(a̲nimaadi ashṭaiśvarya)*, subtleness, lightness, heaviness etc. are waste products of yoga *(yoga-mala)* compared to the ultimate accomplishment of yoga - the liberation. However for a practitioner leading a social life in this materialistic and physical world, even these so-called preliminary effects are highly valuable.

People of the young generation are somewhat reluctant to yoga practice as they think it is an outdated science. Some people doubt that it has to be practiced continuously without any interruption. Few others think that



any faulty practice will cause serious damage to their physique. All these doubts are relevant and are to be admitted to some extent. It is better to practice regularly but discontinuation causes no harm at all. In faulty practice of yoga, the body will warn about the damages in the form of pain and other discomforts.
If the practice is started under proper guidance, such chances are very rare.

Several social and individual restrictions or codes of conduct are stipulated for a practitioner as *yama* and *niyama*. These are for the sake of proper progress in the practice and not to restrain anybody from practice. In the modern social setup these restrictions cannot be considered as hard and fast rules. Giving excess concern to these restrictions will do no good to the practice and will jeopardise its purpose. In ancient texts of yoga, adherence to laws blindly *(niyama-graha)* is considered as a cause of retrogress in practice. An aspirant must obey or follow the laws and restrictions to his level best and the level is designed according to his social status and livelihood. Depth and extent of restrictions can be enhanced gradually by practice.

Yoga has eight steps and is hence called *Ashṭaamga yoga*. These are not to be followed one after another. These are to be followed or practiced together after getting proficiency in each. As stated earlier, *yama* and *niyama* are some codes of conduct to be observed by an aspirant for his progress in practice. Yoga practice without these is merely physical exercise and has only a little to do with mind. So an aspirant must follow these to his level best and practice the conventional yogic postures *(aasana)*. After getting expertise in these postures he can practice respiratory exercises *(praaṇaayaama)* also along with these three steps. Thus according to the progress of practice he can train in all the steps of yoga. A few people have the tendency to avoid primary steps after getting proficiency in higher steps. That is after beginning respiratory exercises they discard the postures and do only respiratory exercises. After learning meditation they reject all other steps of yoga and practice only meditation. This is not the proper way of practice.
A yogic aspirant must practice all the eight steps according to his capability or efficiency.

For beginners, the highest step – *Samaadhi* – is not coming into the field of discussion. Practice of conventional postures and respiratory exercises must become a part of his daily routine like taking bath or brushing teeth. The aspirant can choose his time of practice according to his convenience. It is better to do them daily at same time because the body will naturally be prepared for the practice at that time. If one day he could not do it at the scheduled time, he should never hesitate to do it at any other convenient opportunity. If the practice is discontinued for a few days, restart it at the next possible day. If one has no time to practice the whole as per schedule, he can cut short the schedule and limit the practice only to sun salutation *(soorya-namaskaara)* or some stretching poses or just relaxing poses. Compared to the continuity and regularity of practice, the change in time and duration are of less significance.

In the beginning do not bother about perfection of postures. It is better to retain the poses as much time as possible without torturing the body. Otherwise it will create aversion towards practice. Repetition and continuation of practice will lead to perfection. Discussions on doubts or effects or feelings on yoga practice should be done with co-practitioners or masters or other experts in the field. If such discussions are held with non-practicing people, it may cause adverse effects and may block further advancement in practice.

An aspirant should understand yoga as a science and enjoy it as an art. In the initial stages he can concentrate in the stretching of body parts or stress and pain in joints or movements of body. Later he can notice the breathing or involuntary movements like heart beat and pulsation etc. Such a practice with complete awareness is advanced yoga – no matter how easy the posture is. Practicing with dissipated attention is the practice of a beginner – no matter how difficult the posture is.

The boundary of awareness can be then expanded beyond body and can visualise the surroundings with 'inner eye'. It is an imaginary voyage in the beginning. If one can expand his awareness beyond this universe he can feel the nothingness. Identification of oneself with this is liberation. It is neither easy as reading these lines nor anybody can take others to that stage. One has to practice wilfully to attain these stages.

Actually the eight step yoga is a way of life. It is not to be practiced according to any time schedule. The aspirant must stick on to its limbs throughout the life within individual limitations. As we saw earlier, *yama* and *niyama* are certain codes of conduct to be followed by practitioners. An aspirant must always be aware and conscious of his body postures, movements and breathing. Awareness of body position and movement is a*asana* and breathing with awareness is *praaṇaayaama*. *Pratyaahaara* is control and directing senses towards one's duty at the given moment. Similarly *dhaaraṇa* and *dhyaaana* are concentration and involvement or getting absorbed into one's duty at the moment. Thus all the seven limbs can be practiced or followed throughout the day. The

highest step *samaadhi* has to be attained by practice of other seven steps.

In the beginning of any regular practice *(saadhanaa)* we have to abide by some laws and restrictions. During that there will be some obstacles. They are natural experiments to test the aspirant's interest and assertiveness towards his decision. E.g. if someone starts dieting, in the initial days there will be great temptations for tasty foods and feasts. If the aspirant overcomes these temptations, then nature itself will maintain situations for continuation of practice *(saadhanaa)*.

Don't be in a hurry.....

Learn from the tortoise that slow and steady wins the race. Create and maintain patience to move forward steadily with one's own practice, no matter how slow the progress is. Carefully watch and evaluate the changes in body and mind. Always be in a state of awareness about both internal and external environments. ●

The Eight Steps of Yoga

The eight steps of yoga are: -

1. Restrains *(yama)*
2. Observances *(niyama)*
3. Yogic postures *(aasana)*
4. Breath control *(praa<u>n</u>aayaama)*
5. Abstraction *(pratyaahaara)*
6. Concentration *(dhaara<u>n</u>aa)*
7. Meditation *(dhyaana)*
8. Poised knowledge *(samaadhi)*

Yama includes: -

a) Nonviolence *(ahi<u>m</u>saa)*
b) Truthfulness *(satya)*
c) Non-stealing *(asteya)*
d) Celibacy *(brahmacarya)*
e) Non-acceptance of gifts *(aparigraha)*

Niyama includes: -

a) Hygiene *(sauca)*
b) Contentment *(sa<u>m</u>tosha)*
c) Penance *(tapa<u>h</u>)*
d) Self study *(svaadhyaaya)*
e) Total submission to God *(e<u>s</u>vara-pra<u>n</u>idhaana)*



Model: Suganthi Shibu. Photo: Anil Mizhi

KERALA ayurveda™
wellness, naturally



A Safe Cardiac Protective

INDICATION:
Hypercholestrolaemia, obesity.

DOSAGE:
2 tablets thrice daily as monotherapy.

2 tablets twice daily as an adjuvant to other hypolipidaemic drugs or as directed by the physician.

PRESENTATION:
Box of 10 blisters of 10 tablets

Reduces LDL & Triglycerides Increases HDL



- **An effective drug for hypercholestrolaemia.**
- **Corrects disorders in fat metabolism.**
- **Safe cardiac protective.**
- **Reduced LDL and Triglycerides increases HDL.**
- **Reduces the risk of artherosclerosis.**

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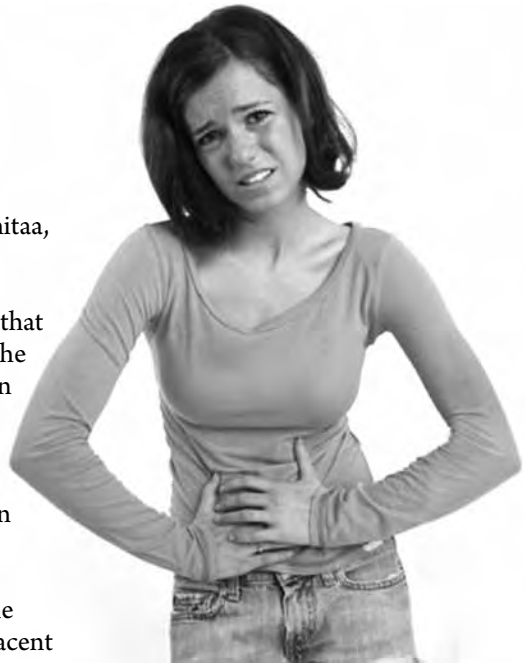
COMPOSITION: Each tablet contains extracts of - *Garcinia cambogia* (Vrikshamla) 75 mg | *Salacia oblonga* (Ponkorandi) 50 mg | *Commiphora mukul* (Gugul) 50 mg | *Terminalia arjuna* (Arjuna) 50 mg | *Tribulus terrestris* (Gokshura) 12 mg | *Pandanus tectorius* (Ketaki) 12 mg | *Plumbago indica* (Chitraka) 12 mg | *Musa paradisiaca* (Kadali) 12 mg | *Madhuca indica* (Elippa) 12 mg | *Celastrus paniculata* (Jyothishmati) 12 mg | *Illicium verum* (Thakkolam) 12 mg | *Strobilanthes Sp* (Sahachara) 12 mg | *Salmalia malabarica* (Sarjarasa) 12 mg | Silajit (Processed) 10 mg | Annabhedi (Processed) 10 mg |

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A Chronicle on Pelvic Inflammatory Disease *(Paripluta)* and Suggested Management



Dr. M. D. SHEBA M. D. (Ay.), Ph.D., MBA
Professor, Vaidyaratnam Ayurveda College Ollur.



Introduction

The gynecological disease paripluta is described by Caraka-samhitaa, Susruta samhitaa, and both the Vaagbhatas. Even though the symptoms given by them are different, it is evident that all are describing the stages of the same condition of inflammation of reproductive organs by infections, the pelvic inflammatory disease. Pelvic inflammatory disease (PID) is an infectious and inflammatory disorder of the upper female reproductive tract, including the uterus, fallopian tubes, and adjacent pelvic structures. Pelvic inflammatory disease is initiated by infection that ascends from the vagina and cervix. *Chlamydia trachomatis* is the predominant sexually transmitted organism causing PID. Newer, more accurate, laparoscopic studies have shown that PID may often be polymicrobial in nature (30-40%). Other organisms that have been implicated in the pathogenesis of PID include *Neisseria gonorrhoeae* and *Gardnerella vaginalis*. At presentation, women with PID may range from asymptomatic to seriously ill. The most common presenting complaint is lower abdominal pain. Many women also exhibit an abnormal vaginal discharge. The diagnosis of acute PID is primarily based on historical and clinical findings, but many patients may exhibit only a few or no symptoms.

The classic high-risk patient is a menstruating woman younger than 25 years who has multiple sex partners, does not use contraception, and lives in an area with a high prevalence of sexually transmitted disease (STD).

Pathophysiology

Most cases of pelvic inflammatory disease PID are presumed to occur in 2 stages. The first stage is acquisition of a vaginal or cervical infection; this infection is often sexually transmitted and may be asymptomatic. The second stage is direct ascent of microorganisms from the vagina or cervix to the upper genital tract, with infection and inflammation of these structures. The exact mechanism of ascent of microorganisms from the vagina and cervix is unknown. However, studies have suggested that a

number of factors may be involved. Although cervical mucus provides a functional barrier against upward spread, the efficacy of this mechanism may be decreased by hormonal changes that occur during ovulation and menstruation.

Alterations in the cervico-vaginal microenvironment may also result from antibiotic treatment and sexually transmitted infections that can disrupt the balance of endogenous flora, causing normally nonpathogenic organisms to overgrow and ascend. Opening of the cervix during menstruation with retrograde menstrual flow may also facilitate ascence of microorganisms. Intercourse may contribute to the ascent of infection due to rhythmic mechanical uterine contractions. Bacteria may be carried along with sperm into the uterus and tubes. In the upper tract, a number of microbial and host factors appear to play a role in the degree of host inflammation and resultant scarring. Tubal infection initially affects the mucosa, but acute, complement-mediated transmural inflammation may develop rapidly and increase in intensity with subsequent infections. Inflammation may extend to uninfected parametrial structures, including the bowel. Infection may extend by spillage of purulent materials from the fallopian tubes or via lymphatic spread beyond the pelvis to produce acute peritonitis and acute perihepatitis (Fitz-Hugh Curtis syndrome).

Pregnancy-related factors

Pregnancy decreases the risk of PID once the cervical os is protected by the mucous plug. PID rarely occurs in pregnancy; however, the disease can occur in the first 12 weeks of gestation, before the mucous plug solidifies and seals off the uterus from ascending bacteria; fetal loss may result. Concurrent pregnancy influences the choice of antibiotic therapy for PID and demands that an alternative diagnosis of ectopic pregnancy be excluded. Uterine infection is usually limited to the endometrium but may be more invasive in a gravid or postpartum uterus.

Etiology

Infecting organisms

The organisms most commonly isolated in many, if not most, cases of acute PID are *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. *C trachomatis*, an intracellular bacterial pathogen, is the predominant sexually transmitted organism causing PID. However, newer studies using more sensitive and specific laparoscopic cultures have found acute PID to be polymicrobial in up to 30-40% of cases. *N gonorrhoeae* and *C trachomatis* may be instrumental in the initial infection of the upper tract, with anaerobes, facultative anaerobes, and other bacteria increasingly isolated as inflammation increases and abscesses form. In addition, cytomegalovirus (CMV) has been found in the upper genital tracts of women with PID, suggesting a potential role of CMV in PID. In iatrogenically induced infections, the endogenous microflora of the vagina predominates. *Bacteroides fragilis* can cause tubal and epithelial destruction. *N gonorrhoeae* and *C trachomatis* may be instrumental in the initial infection of the upper tract, with anaerobes, facultative anaerobes, and other bacteria increasingly isolated as inflammation increases and abscesses form. Human immunodeficiency virus (HIV) infection has been found to be associated with an increased incidence of *C trachomatis* infection, *Candida*, and human papilloma virus. Women with HIV infection also have an increased risk of progression to PID and tubo-ovarian abscess.

Risk factors

Risk factors for PID include multiple sexual partners, a history of prior STIs, and a history of sexual abuse. Frequent vaginal douching has also been implicated. Frequent vaginal douching has been considered a risk factor for PID, but studies reveal no clear association. Younger age has been found to be associated with increased risk, suggested to be due to some combination of increased cervical mucosal permeability, a larger zone of cervical ectopy, a lower prevalence of protective chlamydial antibodies, and increased risk-taking behaviors. Surgical procedures, such as endometrial biopsy, curettage, and hysteroscopy break the cervical barrier, predisposing women to ascending infections.

Prognosis

Chronic pelvic pain occurs in approximately 25% of patients with a history of pelvic inflammatory disease. This pain is thought to be related to cyclic menstrual changes, but it also may be the result of adhesions or hydrosalpinx. Impaired fertility is a major concern in women with a history of PID. Infection and inflammation can lead to scarring and adhesions within tubal lumens. Of women with tubal factor infertility (TFI), 50% have no history of PID but have scarring of the fallopian tubes and exhibit antibodies to *C trachomatis*. The rate of infertility increases with the number of episodes of infection. The risk of ectopic pregnancy is increased 15-50% in women with a history of PID. Ectopic pregnancy is a direct result of damage to the fallopian tube. PID may produce tubo-ovarian abscess (TOA) and extend to produce pelvic peritonitis and Fitz-Hugh Curtis syndrome (perihepatitis), ... ▶▶*Page 33*

Kerala Ayurveda Research & Educational Foundation (KARE)



Dr. K. Mohandas, Vice-chancellor, Kerala University of Health Sciences lighting the auspicious traditonal lamp to inaugurate KARE foundation

Kerala Ayurveda Research & Educational Foundation (KARE) formed by Kerala Ayurveda was launched on 6th November 2011 at Dream Hotel, Cochin, in the presence of an august assembly consisting of biomedical scientists, clinical researchers, scholars of humanities, and physicians of various disciplines.
The foundation was inaugurated by Dr. K. Mohandas, Vice-chancellor, Kerala University of Health Sciences. In his inaugural address Dr. Mohandas emphasized the acute need of authentic scientific research in the field of Ayurveda so that the science can be equipped with scientific answers to satisfy the global queries. Multidisciplinary research is the need of the hour. KUHS is also attempting to work in the field and he expected that foundations such as KARE could join hands with the University in this Herculean task of revitalizing Ayurveda with novel innovations and scientific explanations.

The assembly was welcomed by Dr. K. Anilkumar, Director KARE who introduced KARE to the audience and projected the need of such an organization in the changing global scenario. The global proliferation of Ayurveda is not without resistance. There are various corners that resist and inhibit the progress and propagation of Ayurveda and most of these corners are posing relevant scientific queries on Ayurvedic claims, those at present are difficult to answer satisfactorily. There are no simple solutions. Hence most modern scientific research on Ayurveda is essential and Kerala Ayurveda has ventured to organize KARE foundation to address the problem with advanced research.
He hopped that KARE could function as a common platform for multidisciplinary research programs and interactions.

In his presidential address Ramesh Vangal, Chairman, KAL revealed his extreme commitment to the cause of Ayurveda. He inspired the doctors to come forward to cooperate in the activities of KARE so that multi-centre





studies on Ayurveda can be conducted to prove the authenticity and validity of Ayurveda. Mr. Vangal announced that KAL has already linked with various research foundations of merit and universities like BHU who could conduct advanced research to validate ayurvedic concepts and practices.

In connection with the launch of KARE, there was an intellectual conclave in which three eminent scientists presented papers. Discussions were conducted on the papers. After the presentations there was a panel discussion. Dr. C.I. Jolly, Dr. C.R. Agnives, Dr. K. Muralidharan (AVS), Dr. Narayanan Nambi, Dr. K. Sasidharan Mr. Patanjali Subramoni, Dr. N.V. Sreevaths and Dr. P.K. Narayana Sarma participated in the panel discussion. Mr. A.T. Jacob, Director KARE moderated the session.

In the conclave Dr. S. Narasimhan Ph.D., Chairman and Managing Director, Ashtagiri Herbal Foundation, Chennai presented the possibility and feasibility of "Finger printing as a tool in the validation of Ayurveda Products". He explained his experiences in this sphere and expressed that finger

















1: Presidential address: Mr. Ramesh Vangal, Chairman KAL.
2: Inaugural oration: Dr. K. Mohandas, Vice-chancellor, KUHS.
3: Presentation: Dr. Bishwajit Nag Ph.D.
4: Welcome speech - Dr. K. Anilkumar.
5: Presentation: Dr. S. Narasimhan Ph.D.
6: Presentation: Dr. Jacob Jayan B. BAMS, MBBS, MD (Pharma).
7: Panel discussion.
8: A memento to Dr. K. Mohandas by Mr. Ramesh Vangal.
9: Vote of thanks: Mr. A.T. Jacob.

printing technology can solve the problems of Ayurveda to a great extent.

Dr. Bishwajit Nag Ph.D. (Biochemistry), President and CEO, Nag Research Laboratories Inc. and Renovel Discoveries Inc. California, USA presented a paper on "Scientific Validation of Ayurvedic Formulations". He pointed out the importance of identifying the active molecule that really works in the formulation.

Dr. Jacob Jayan B. BAMS, MBBS, MD (Pharma), Lecturer, Medical College hospital, Alapuzha presented a paper on "Validating procedure based therapies in Ayurveda." During the presentation he emphasized the need of proper documentation of cases, which is seriously lacking in ayurvedic practice. Only with proper documentation we could prove our merit to the global scientific community.

Vote of thanks to the participants was delivered by Mr. A.T. Jacob, Director KARE. The function which started at 9.45 am was successfully completed by 4.00 pm. ●



A team of 26 students lead by Dr. Rugue, a famous cardiologist and Ayurveda practitioner from Sao Paul, Brazil completed their 8 days of learning Kerala Panjcakarma therapies at Kerala Ayurveda Academy. The group consisted of doctors, nurses, physiotherapists and natural healers. Most of the students were learning Ayurveda for the last 2 years and the program was an intensive internship for them. This program was conducted as a tie up between Yoga Brahma Vidyalaya, Brazil and Kerala Ayurveda Academy.

With love and reverence





Padmasree Dr. K. Rajagopalan DAM., MBBS., FAIM, Director KAL has turned octogenarian. His 80th birthday was celebrated as a fesitve occassion in the premises of Kerala Ayurveda Hospital. Dr. K. Anilkumar presented to him a memento to comemorate the birthday. He was honoured by presenting a golden shawl. Of course, a cake was cut at the occassion and the photograph you see Dr. K. Anilkumar feeding the octogenerian with a piece of sweet cake as a token of love of the whole KAL family. The family dined in Kerala style with Dr. K. Rajagopalan and wished him happy prosperous and healthy life. Dr. Rajagopalan was associate with KAL for long right from the the days of the founder Vaidyan KGK Panicker.

Congrats Mr. Raison



This presentation on Myaxyl Capsule by Raison R, R&D Department got the second prize in the poster presentation competition organized during the International symposium & congress on advances in Herbal science and Technology, at MACFAST College Thiruvalla, Kerala 2011. This seminar was sponsored by Medicinal plant board, Kerala, DST-Govt. of India, ICMR-Govt. of India, Council for Science, Technology and Environment, Govt. of Kerala, Care Keralam & Thiruvalla Catholic Archdiocese.

▶▶*Page 28 ....* as shown in the image below. TOA is reported in up to one third of women hospitalized for PID.



'Violin-string' adhesions of chronic Fitz-Hugh-Curtis syndrome.

Physical Examination

Because of the serious potential complications of untreated PID and the endemic prevalence of the infection, the Centers for Disease Control and Prevention (CDC) has adopted an approach to maximize diagnosis by using minimal criteria and by urging providers to maintain a low threshold for diagnosis and empiric treatment. Institute empiric treatment of PID when a sexually active young woman who is at risk for STI has pelvic or lower abdominal pain, no identifiable cause for her illness other than PID, and, on pelvic examination, one or more of the following minimal criteria: -

- Cervical motion tenderness
- Uterine tenderness
- Adnexal tenderness

The presence of temperature higher than 38.3° C (101° F) and abnormal cervical or vaginal mucopurulent discharge enhance the specificity of the minimum criteria, as do selected laboratory tests. Rebound lower abdominal tenderness and involuntary guarding may be noted and suggest associated peritonitis. The positive predictive value (PPV) of these findings will vary depending on the prevalence of PID in a given population. One large, multi-center trial found adnexal tenderness to be the most sensitive physical examination finding (95% sensitive; P < .001). Mucopurulent cervicitis is common, and if absent, it provides a significant negative predictive value (NPV). Adnexal fullness or disproportionate unilateral adnexal tenderness may indicate the development of a tubo-ovarian abscess. Molander et al found the following 3 variables to be significant predictors of the diagnosis, correctly classifying 65% of patients with laparoscopic documented PID (95% confidence interval).

- Adnexal tenderness (P < .001)
- Fever (P < .001)
- Elevated sedimentation rate (ESR) (P < .001)

Right upper-quadrant tenderness, especially if associated with jaundice, may indicate associated Fitz-Hugh-Curtis syndrome. A prospective cohort study in 117 incarcerated adolescents documented a 4% incidence of Fitz-Hugh-Curtis syndrome in those with mild-to-moderate PID.

Approach Considerations

A number of procedures can be performed to improve the diagnosis of pelvic inflammatory disease (PID) and its complications. These procedures are not necessary, nor are they indicated, in the management of every case of PID. However, due to the difficulty of definitive clinical diagnosis and the number of important surgical and gynecologic emergencies that may have similar presentations, the clinician should be aware of these modalities. Specific criteria for PID based on procedures that may be appropriate for some patients are as follows:

- Laparoscopic confirmation
- Transvaginal ultrasonographic scanning or magnetic resonance imaging (MRI) showing thickened, fluid-filled tubes with or without free pelvic fluid or tubo-ovarian abscess (TOA)
- Endometrial biopsy showing endometritis

Laparoscopy is the criterion standard for the diagnosis of PID, but the diagnosis of PID in emergency departments and clinics is often based on clinical criteria, with or without additional laboratory and imaging evidence. No single test is highly specific and sensitive for PID, but laboratory tests, imaging studies, and procedures may be used to increase the specificity of the diagnosis.

Additional criteria that improve diagnostic specificity include the following:

- Oral temperature greater than 38.3° C (101° F)
- Abnormal cervical or vaginal mucopurulent discharge
- Abundant white blood cells (WBCs) on saline microscopy of vaginal secretions
- Elevated erythrocyte sedimentation rate
- Elevated C-reactive protein
- Laboratory evidence of cervical infection with *N. gonorrhea* or *C. trachomatis* (culture or DNA probe)

Other tests that may be considered include the following:

- Rapid protein reagin (RPR) test for syphilis (syphilis is again increasing in the United States)
- Hepatitis and HIV
- Urinalysis to help exclude urinary tract infections (however, a positive urinalysis does not exclude PID, because any inflammatory process in the contiguous pelvis can produce white blood cells in the urine)

Transvaginal Ultrasonographic Scanning

Pelvic ultrasonographic scanning (see the images below) is also useful in evaluating the

possibility of ectopic pregnancy in patients whose differential diagnosis includes that condition and PID. The modality can also be helpful in evaluating other disorders in the differential diagnosis, including hemorrhagic ovarian cyst, ovarian torsion, endometrioma, and appendicitis. The use of ultrasound appears to be medical center specific, as some adult academic medical centers do not believe that ultrasound is of appropriate sensitivity and specificity to be used as a solo imaging modality to rule out appendicitis.



Transabdominal ultrasonogram. This image shows anechoic tubular structures in the adnexa; the finding is compatible with a hydrosalpinx.



Endovaginal ultrasonogram. This image reveals a tubular structure with debris in the left adnexa; the finding is compatible with a pyosalpinx.



Ultrasonogram shows a markedly heterogeneous and thickened endometrium, a finding that is compatible with endometritis.



This ultrasonogram reveals bilateral complex masses in a patient who had pyometrium, a finding that is compatible with tubo-ovarian abscess.

Positive ultrasonographic findings in PID may include the following:

- The uterus may be ill defined because of inflammation; however, inflammation of the uterus is an unusual finding
- Endometritis may result in central-endometrial-cavity echo thickening and heterogeneity
- Hydrosalpinx is depicted as a fluid-filled fallopian tube (if the fallopian tube walls are thickened and if debris is present within the tube, pyosalpinx should be considered in the differential diagnosis, but a pyosalpinx may be imaged as an echoless tube, whereas an imaged echo-filled tube may be due to proteinaceous but non infected fluid in a hydrosalpinx)
- Oophoritis results in enlarged ovaries with ill-defined margins that often appear adherent to the uterus; adjacent free fluid may be present in the adnexa or cul-de-sac
- Tubo-ovarian abscesses (TOAs) are depicted as complex adnexal masses with thickened walls and central fluid
- Pelvic infection, such as tubal hyperemia, detected by Doppler studies, is one of the most specific criteria in diagnosing PID.

Management

The treatment protocol is administered according to the humoral involvement which identified by the symptoms produced. All the gynecological diseases do not occur without vata, it should be considered primarily. Anti inflammatory, analgesic, antimicrobial drugs has to be selected for various modalities of treatment. *Candra-prabhaa vati, Gokshuradi gulgulu, Sataavaryaadi* decoction, *Nyagrodhaadi* decoction, *Sataavaryadi* oil enema *(anuvaasana vasti)*, oil tampon *(picu)* and paste application *(kalka dhaarana)* with cold group of drugs may be employed. After the subsidence of symptoms, treatments for the fertility managements have to be done. *Phala ghrta, Kalyanaka ghrta* etc. may be selected.

Approach Considerations

The treatment of pelvic inflammatory disease (PID) addresses the relief of acute symptoms, eradication of current infection, and minimization of the risk of long-term sequelae. These sequelae, including chronic pelvic pain, ectopic pregnancy, tubal factor infertility (TFI), and implantation failure with in vitro fertilization attempts, may occur in up to 25% of patients. Early diagnosis and treatment appears to be critical in the preservation of fertility. Current guidelines suggest that empirical treatment should be initiated in at-risk women who exhibit lower abdominal pain, adnexal tenderness, and cervical motion tenderness. Due to diagnostic difficulties and the potential for serious sequelae, the Centers for Disease Control and Prevention (CDC) advises that physicians maintain a low threshold for aggressive patient treatment, with overtreatment preferred to no or delayed treatment. ●

Management of chronic non-healing ulcer *(dushṭa-vraṇa)* by Fumigation method using Guggulu-panjcapala Coorṇa



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Introduction

Management of chronic, non-healing ulcer *(dushṭa-vraṇa)* has always been a difficult proposition in the evolution of medical practices. Throughout the ages, man was seeking better management for wounds and ulcers. The incidence of chronic ulcer is 0.78% of the population – affecting chiefly people above the age of 60 – increased life expectancy favoring increased incidence of chronic, non healing ulcers. Management of ulcer is the tutorial in the discipline of surgery, a candidate who excels in the art would not only become a good diagnostician, surgeon and physician; but he would also be compassionate and loving, always at the service of mankind. Such is the importance of wound *(vraṇa)* training, bestowed by our ancient scholars. There is never a single drug line of management in chronic ulcers, nor is there any single therapy, as the condition results from a multitude of factors related or seemingly unrelated. Better is the management of ulcers now, in this era of escalating use of antibiotics internally and religious training in asepsis. However, there are so many chronic ulcers still remaining, which are not amenable to conventional management - due to the specificity of the site, organisms,



condition of *milieu interior* etc. The reasons for the chronicity in an ulcer which refuses to heal can be versatile, but is essentially the detaining of it in various healing phases, especially in the inflammatory stage. Collagen is degraded at a faster rate than it is produced; thus repeated mitosis occurs in unfavorable circumstances. Thus, the orderly stages of healing are compromised and the wound becomes chronic or polluted *(dushṭa)*. The patho-physiological reasons are enlisted and discussed below.

Wounds become chronic and putrefied due to stagnation in the natural phases of wound healing. It is usual for the ulcers to persist in the inflammatory stage for longer periods than warranted, for versatile reasons; both exogenous and endogenous. The precise balance between production and degradation of collagen also seem to be affected in chronic ulcers – degradation being more pronounced. Healing of chronic ulcers is very difficult, often taking several years. The family of the sufferer and the society is burdened with a 'non-productive' individual who eventually feels alienated and socially ostracized. Though classical chronic ulcers are venous ulcers, diabetic ulcers and trophic ulcers; other conditions like chronic suppurative otitis media and chronic ulcers following surgery of the peri-anal area are also included under this study. However ulcers following radiation exposure and cancers are not taken for this study, as such cases were not available.

The current management plan is with antibiotics, anti inflammatory drugs, wound debridement, irrigation, hyperbaric oxygenation, vacuum assisted closure, electro stimulation (Wolcott et al (1969), Feedar et al (1991) and maggot therapy. Plastic surgery techniques cannot be employed as regular management protocol or are not successful in many cases. Many of such techniques are expensive too. Hence, a technique from the classics which is least expensive is selected for this study.

The present study tries to unravel the results recorded in the management of a handful of such clinical conditions using a classical preparation and a classical protocol of therapy – fumigation method using *Guggulu-panjcapala coorṇa.*

Abstract

Chronic ulcers *(dushṭa-vraṇa)* falling under the following entities were selected for the study viz. Venous ulcers, Decubitus ulcers (Bed sore), Chronic suppurative otitis media with profuse discharge and slowly healing ulcers following anal surgery. The total number of cases considered in this study was 25. Disease wise representation is tabled below (Table 1).

Table - 1

No.	Condition presenting as *dushta vraṇa*	No. of cases	Group
1	Venous ulcer	4	A
2	Decubitus ulcer (Bed sore)	1	A
3	Slowly healing ulcers following anal surgery	14	A
4	Chronic Suppurative discharging Otitis Media	6	B



When the disease is severe and incurable, doctors usually go for highly complicated medicines and procedures those are expensive. But simple measures of treatments may be of more help than highly refined and sophisticated treatment. Chronic ulcers are difficult to heal. Simple procedures like fumigation can be effective in their treatment. But fumigation is a much forgotten treatment modality today. The authoress reminds us the need of wider application of fumigation. It is cheap and effective. It can be simply employed without costly equipment. The article emphasizes the merits of going back to simpler techniques of treatment to really help the patients.

The cases were divided into two categories – broad, open ulcers consisting of Venous ulcer, Decubitus ulcer (Bed sore) and slowly healing ulcers following anal surgery were included in Group A; ulcers with nature of sinuses *(naadee-vraṇa)* - CSOM cases *(pootee-karṇa)* with profuse discharge were included in Group B; as the criteria for assessment of results in both these groups were to be fixed different.

The parameters used for assessment using a score in Group A were - cessation of discharge, mean diameter of the ulcer across the broadest part of the ulcer at weekly intervals till healing, time taken for healthy granulation tissue formation, time taken for epithelial tissue formation & time taken for the scar to form. Cessation of discharge alone was studied in Group B, as other parameters were not assessable in this group because of the nature of ulcer. Histopathological studies were also not entertained; as the scar cannot be damaged further for ethical considerations. The authoress would also submit that the heterogeneous nature of the sample and the sample size limited further scope of extensions in parameters.

Irrespective of the Group of study, nature of the ulcer or its size, every patient was given *Varaṇaadi* decoction 12.5 ml twice daily with 50 ml of boiled and cooled water along with *Simhanaada Guggulu* tablets, 2 nos. twice daily. Fumigation was done twice daily for ten minutes by *Guggulu-panjcapala coorṇa* 5 gm sprinkled over burning charcoal and fanning. A medicinal incenser *(dhoopana-yantra* = Malayalam *dhoopakkut`t`y)* with a perforated lid served as the simple apparatus (see figure). The duration for the study in a single case was 30 days or evidence of healing seen; whichever was earlier.

The results are tabulated below (Table 2)

Table – 2

o.	Parameter	Group A		Group B	
		Before study	After study	Before study	After study
1	Discharge	Copious to sero-sangenous	No discharge in 17 cases. No response in 2 cases	Copious and offensive	No discharge in 5 cases. No response in 1 case
2	Mean diameter across the ulcer in the group	24 mm.	Perfect healing in 17 cases. No response in 2 cases.	Not assessed	
3	Time taken for healthy granulation tissue to form	Mean time 6 days from the start of fumigation		Not assessed	
4	Time taken for epithelial tissue to form	Mean time 11 days from the start of fumigation		Not assessed	
5	Time taken for scar formation	Mean time 23 days from the start of fumigation		Not assessed	

Materials and Methods

25 cases of chronic ulcer *(dushṭa-vraṇa)* falling under various types of non-healing ulcers were selected for the study irrespective of age, sex, chronicity, number of ulcers and ulcer type. They were divided into two distinct groups – Group A consisting of a total of 19 cases of broad, open ulcers of various types as Venous ulcer, Decubitus ulcer (Bed sore) and Slowly healing ulcers following anal surgery and Group B, comprising of a total of 6 cases, all of whom were CSOM *(pootee-karna)* cases with active discharge.

Objective

To appraise and record the differences of efficacy, if any; in terms of parameters fixed for assessment as highlighted in table 2. in the two groups studied, in a total of 25 cases of non-healing ulcers.

Design

Observational study of 30 days in a sample of 25 cases. Grouping was done as discussed above, because of the heterogeneous nature of the sample, where assessment criteria also were different. The cases were selected at random irrespective of age, sex, chronicity, nature of ulcer, constitution *(prakṛti)* of the individual, local humoral *(doshic)* status and number of ulcers. The patients were examined daily for discharge, mean diameter across the ulcer in the group, time taken for healthy granulation tissue to form, time taken for epithelial

tissue to form and for eventual scar formation. Discharge was given scoring from + to ++++. Ulcers due to malignancy or tuberculosis were not entertained for the study; the diagnosis being made on clinical grounds alone – with no histopathological demarcation for either diagnosis or assessment of healing, as this study was planned to be purely observational. All the patients of both the groups received uniform exposure to fumigation in terms of duration and quantity of the drug per sitting.

Results

The initial results of fumigation in both the groups were quite encouraging. In Group A consisting of 19 cases, 17 patients got healed whereas in 2 patients no relief was noticed – the effect of fumigation in healing being 89.47%. In Group B, out of 6 cases, 5 cases had cessation of discharge by the end of 30 days – effect being 83.33%; one case did not show relief of symptoms.

Discussion

The factors which contribute to the change of a healing ulcer to a non-healing one and its putrifaction are the prices man pay for his ageing. A variety of factors like ischemia, hypoxia, diabetes, vascular factors, infection (bacterial colonization), immunity of the host, neuro-insufficiencies, neoplasia, metabolic factors, repeated trauma (reperfusion injury), pressure – all in association with increasing age makes the prognosis of ulcers difficult. Ischemia favors inflammation and releases substances like interleukins, chemokines, leukotrines, compliment factors etc. In its fight against pathogens, neutrophills release inflammatory cytokines which in turn release ROS (Reactive Oxygen Species) to kill microbes, but the myeloperoxide which they produce is lethal not only to microbes, but to host cells also. This damages DNA, lipids, proteins and Extra-cellular matrix (ECM) of host cells too. The too long presence of neutrophills in chronic wounds makes the wounds having higher levels of inflammatory cytokines. Even the wound discharge *(vraṇa-sraava)* contain excess of proteases and ROS, hence this fluid itself may inhibit cell growth by breaking down factors in ECM.

Hypoxia favors bacterial growth by inhibiting WBC. As the ulcer becomes chronic, resistance to antibiotics will develop. This is compounded by less Platelet derived growth factor and Keratinocyte growth factor and high proteolytic enzymes such as elastase in chronic wounds. Growth factors will be devitalized in chronic wounds by bacterial proteases. In chronic wounds such as those seen in Diabetics, fibroblasts fail to produce ECM proteins in adequate quantities because of the difference of fibroblast gene expression. While inflammation is aptly defined as the reaction of living tissue towards injury, too much of it is damaging to the new tissues and the tissue elastase, a double edged sword in healing is supported by Human Serum Albumin in destruction. Thus the delicate compromise between degradation and construction is jeopardized in chronic ulcers.

This protease imbalance, together with factors aforesaid like ischemia and bacterial load make up to what is described in Ayurveda as *dushṭa-vraṇa.*

Any management of a chronic ulcer to be effective should serve the following criteria: it should improve circulation, inhibit bacterial flora (disinfection), improve oxygen availability, remove dead tissues (debridement), warm and moist the tissues, should have anti-inflammatory properties, remove blood and organic exudates, reduce edema and decompress tissues. It is not yet time to arrive at a probable hypothesis as to what might have happened in the ulcers subjected to the present study, to reverse the pathogenesis and to provide the effect that was observed.

Scope for future studies, suggestions and conclusion

The efficacy may be put to test in multi-centric studies involving larger samples. Further prospective studies of Histopathological and experimental nature are to be done in this field.

Management of chronic ulcer to result in healing is a strain and drain of economy and manpower in a global perspective of today's fast world. If fumigation of ulcer *(vraṇa-dhoopana)*, a near forgotten entity of Ayurveda, is effective to tackle this problem to a certain extent, it would be a boon to the sufferers of this widespread clinical condition.

References:

1. *Ashtaamga-hrdaya Uttarasthaana* 28/40

2. *Susruta-samhitaa Cikitsaa-sthaana* 1/80

3. *Susruta Samhitaa Sootra-sthaana* 37/21. ●

Powder for Fumigation

In this study, *Gulgulu-panjca-pala* powder (A.H.U.28.40), a classical ayurvedic formulation usually used internally for skin diseases, fistula of perineum, other tubular ulcers and phantom tumor is used for fumigation. The ingredients are: -

1. *Gulgulu* (resin of Indian bdellium tree) – 240 g
2. long pepper – 48 g
3. The three myrobalans–each 48 g
4. Cinnamon bark – 12 g
5. Cardamom seeds – 12 g

Standardization, Antibacterial and Antifungal activity of A Poly Herbal Formulation – Biogest Cream

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ABSTRACT

Biogest cream is an effective and safe topical preparation intended for microbial skin infections. Aim of the study was to standardize the formulation and to determine the anti-bacterial and antifungal activity of the same. Standardization was done by assessing physical parameters, pharmaceutical parameters, chemical parameters including qualitative, quantitative analysis and microbial parameters. Antibacterial activity was compared with standard Gentamycin disc (10mcg/disc) on three gram negative and two gram positive bacteria by Agar well-diffusion assay method. Antifungal activity was done against three fungal sp. Itraconazole (10mcg/disc) was used as the positive standard for antifungal studies. Mueller-Hinton agar was used as the medium for the antimicrobial assay. Concentrated methanolic extract of the Biogest cream was used for the study. The potent broad spectrum antimicrobial action of Biogest cream makes it a perfect choice to treat all types of bacterial and fungal skin infections.

Key words: *Poly herbal formulation, Antibacterial, Antifungal,*

Agar well-diffusion method, Biogest cream.

INTRODUCTION

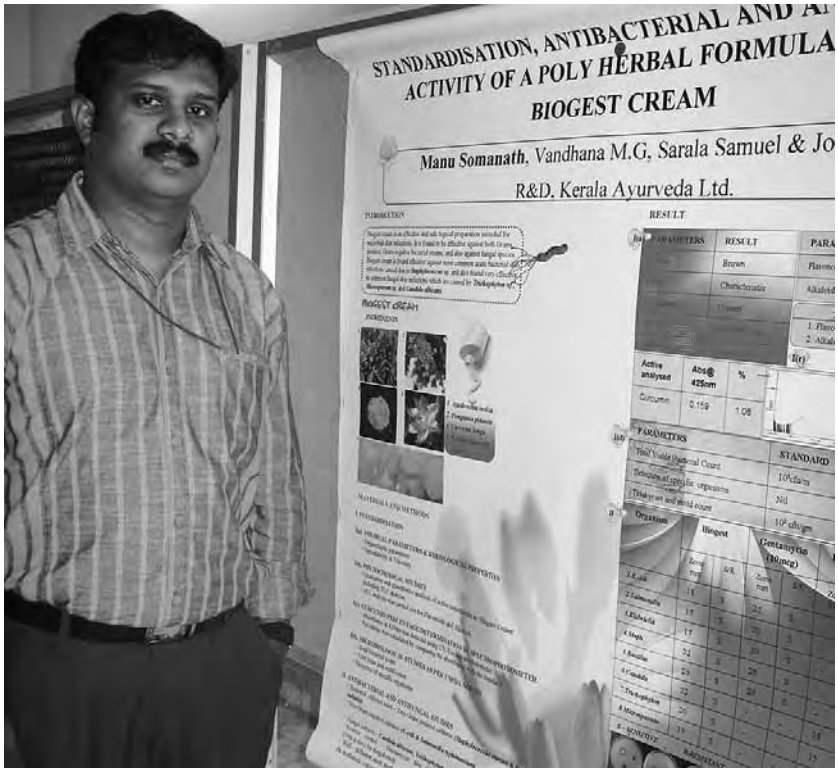
Plants have been used in traditional medicine for several thousand years. The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. In India, it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine. During the last few decades there has been an increasing interest in the study of medicinal plants and their traditional use in different parts of the world. Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources[1].

The human skin can show

conditions ranging from simple dryness to severe erythema and scaling. These indications are sometimes accompanied by pruritis, inflammation and also may exhibit an associated oedema that further increases the discomfort. Herbal materials have been selected by an untiring process of 'trial and error' to alleviate these symptoms. This is not a method considered to be at all scientific by today's exacting standards. However, scientific study shows that plants possess a vast complex arsenal of phytochemicals that not only calm, restore, and heal the skin, but also stand up to the scrutiny of clinical trial and pharmacology[2]

Antibiotics provide the main basis for the therapy of microbial (bacterial and fungal) infections. Since the discovery of these antibiotics and their uses as chemotherapeutic agents there was a belief in the medical fraternity that this would lead to the eventual eradication of infectious diseases. However, over use of antibiotics has become the major factor for the emergence and dissemination of multi-drug resistant strains of several groups of microorganisms[3].

Biogest cream is an effective and safe topical preparation intended for microbial skin infections. It is found to be effective against both Gram-postive, Gram-negative bacterial strains, and also against fungal species. Biogest cream is found effective against most common acute bacterial skin infections caused due to Staphylococcus sp. and also found very effective in common fungal skin infections which are caused by Trichophyton sp., Microsporum sp. and Candida albicans. Neem, Karanja, Haridra, processesd gandhakam and Yasada bhasmam are the traditionally used and scientifically proven antimicrobials which are blended with suitable base that helps to retain on the affected area for sustained action[4].



Manu Somanath during the poster presentation competition organized by the International symposium & congress on advances in Herbal Science and Technology, at MACFAST College Thiruvalla.

Materials and Methods

I. STANDARDIZATION

I (a). Physical Parameters & Rheological Properties

i. Organoleptic Characters like Color and Odor of the Biogest cream was standardized.

ii. Viscosity was checked by using Brookfield Viscometer and Spreadability was checked by using Fisher brand filter papers (Table – 1).

Table -1

PARAMETERS	RESULT
Colour	Brown
Odor	Pleasant
Consistency	Creamy
Viscosity	6000-7000 Cps
Spreadability	50-60%/wt.

I (b). Phytochemical Studies

Qualitative and Quantitative phytochemical analysis of the Biogest cream was undertaken using standard qualitative methods as described by Kokate[5]. The cream was screened for the presence of biologically active compounds like alkaloids and flavonoids. Subsequently the formulation was accessed for quantitative assessment of flavonoids[6] and alkaloids[6] (Table - 2).

Table -2

PARAMETERS	PRESENCE	RESULT
Flavonoids	+	3.75%
Alkaloid	+	1.43%

I(c). Thin Layer Chromatography7:

Thin layer chromatography was done to visualize the presence of actives in the formulation. Methanolic extract of the Biogest cream was used for the TLC analysis

i) Flavonoids

a) Solvent system: - Toluene: Ethyl acetate: Formic acid (5:3:0.4)

b) Spray Reagent: - NP/PEG reagent

ii) Alkaloids

a) Solvent system: - Toluene: Ethyl acetate: Diethyl amine (7:2:1)

b) Spray Reagent: - Dragendorff reagent

Results of the TLC studies are recorded. (Table - 3)

Table - 3

ACTIVES	Rf VALUES
Flavonoids	0.49, 0.56, 0.62, 0.80, 0.86
Alkaloids	0.1, 0.29, 0.36

I(d). Determination of Curcumin Content in Biogest Cream9

Materials

Biogest cream, standard curcumin obtained from Sigma Aldrich, HPLC grade ethanol, glass wares, Shimadzu UV-1800 double beam UV-VIS Spectrophotometer.

Method

Estimation of curcumin in Biogest cream was done by comparing the absorbance of standard solution of curcumin in ethyl alcohol with the absorbance of test solution in ethyl alcohol at 425nm using UV- VIS. Spectrophotometer.

Procedure

0.5g of the sample was weighed and dissolved by refluxing in 30ml ethyl alcohol. Filtered in a 50 ml volumetric flask and diluted to mark with alcohol. 1ml of the solution is pipetted into 100ml volumetric flask and diluted to volume using ethyl alcohol.

The standard solution of curcumin contains 0.0025g/litre of pure curcumin in ethyl alcohol. The absorbances of standard and test solution were measured at 425nm using ethyl alcohol as blank.

Percentage of curcumin = Absorbance at 425nm × 100x0.0025

Absorbance of standard (0.42) × wt. of sample(g)

I (e). Microbiological Standardization as per USFDA Standard

Method

Microbiological standardization of the formulation was done by determining the Total bacterial count, total yeast and mold count and detection of specific organisms like ***E.coli, Salmonella typhimurium, Pseudomonas aeruginosa and Staphylococcus aureus*** [8]. The results along with standards are given in Table – 4. From the results we can infer that the formulation passes USFDA and WHO standards.

Table - 4

Parameters	Standard	Results
Total bacterial count detection of specific organisms	10^3 cfu/g	Less than 10cfu/g
Staphylococcus aureus	Nil	Nil
Pseudomonas aeruginosa	Nil	Nil
E.coli	Nil	Nil
Salmonella sp.	Nil	Nil
Total yeast and mold count	10^2 cfu/g	Less than 10cfu/g

II. Antibacterial & Antifungal Activity of the Formulation

Materials used

i) Biogest cream extract

ii) Gentamycin disc (10mcg/disc)

iii) Itraconazole disc (10mcg/disc)

iv) **Bacterial cultures used** (Procured from IMTECH, Chandigarh)

E.coli (MTCC 727)

Salmonella typhimurium (MTCC 98)

Klebsiella pneumoniae (MTCC 3384)

Bacillus subitilis (MTCC 3053)

Staphylococcus aureus (MTCC 3160)

v) **Fungal cultures**

Trichophyton rubrum (MTCC 1637)

Microsporum gypsum (MTCC 296)

Candida albicans (MTCC 2829)

vi) **Media used**

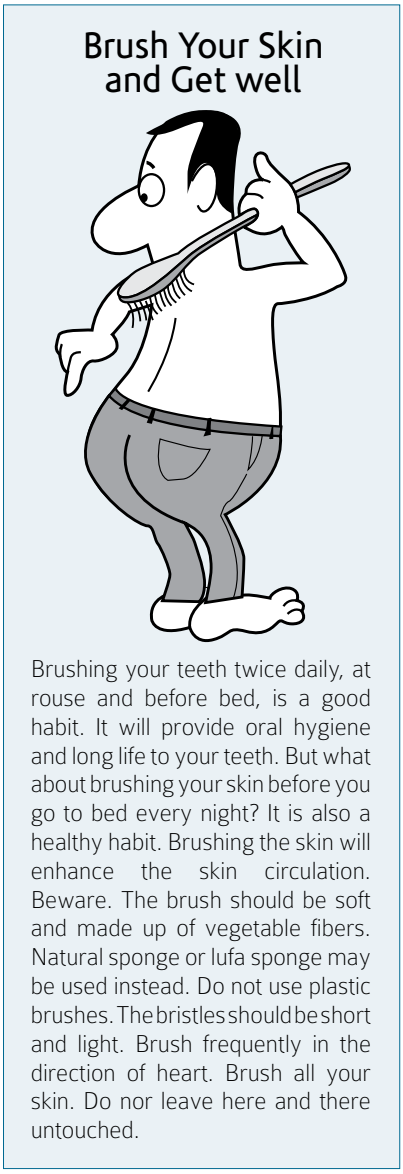
Mueller Hinton Agar

Nutrient broth

Potato dextrose broth

Procedure:

Evaluation of the activity was carried out by agar well diffusion assay[10, 11, 12, 13] using Mueller Hinton agar medium and the



Skin diseases are nasty, naughty and obstinate. They make us ugly. Any skin disease, trivial or grave, contagious or non-contagious on uncovered body parts affects the appearance and social acceptance of the person. For example, leprosy is much less contagious than pulmonary tuberculosis. If a doctor can visit a tubercular patient once without fear of infection, he can visit a leper seven times without fear. Yet the leper is more condemned and isolated by the society. It is just because the disease is pinned on the surface of the body as a badge of impurity. An intact and spotless integument is considered as the trade mark of health.

antibacterial activity was measured in terms of zone of inhibition. Suspension of organism was made in a sterile isotonic solution of sodium chloride (0.9% w/v) and the turbidity was adjusted such that it contained approximately 1.5X 10 ^{8} cells/ml. It was obtained by adjusting the optical density of the bacterial suspension to that of a solution of 0.05ml of 1.175% of barium chloride and 9.95 ml of 1% sulphuric acid (0.5 McFarland standard).

18hrs incubated bacterial cultures were swabbed evenly on the Mueller Hinton agar plates using sterile swabs. Wells (0.7cm diameter) were made in the agar using sterile cork borer. Around 150µl of methanolic extract of the formulation was added to the well using micropipette and sterile tips. Gentamycin (10mcg/dsc) was placed as the positive control for bacterial plates and Itraconazole (10mcg/disc) for fungal plates. . The plates were undisturbed for 2hrs for proper diffusion of the extract. Then the bacterial plates were incubated at 37^{0}C for

24 hrs and fungal plates at 25^{0}C for 48 hrs. After incubation the zone of inhibition was checked by using Hi media Zone size checking scale. Compared the result with Gentamycin and Itraconazolezone. The method was repeated twice and the average zone size was calculated. The result of the antibacterial and antifungal activity was tabulated in Table No.5.

Table: 5 Antibacterial and anti fungal activity of BIOGEST cream

Sl. No	Organism tested	Biogest cream extract (methanolic)		Gentamycin (+ve control – bacteria)		Itraconazole (+ve control – fungus)		Methanol (-ve control)	
		Zone of inhibition (mm)	Inference	Zone of inhibition (mm)	Inference	Zone of inhibition (mm)	Inference	Zone of inhibition (mm)	Inference
1	*E.coli*	18	Sensitive	22	Sensitive	—	—	Nil	Resistant
2	*Salmonella typhimurium*	17	Sensitive	20	Sensitive	—	—	Nil	Resistant
3	*Klebsiella pneumoniae*	17	Sensitive	20	Sensitive	—	—	Nil	Resistant
4	*Staphylococcus aureus*	22	Sensitive	28	Sensitive	—	—	Nil	Resistant
5	*Bacillus subitilis*	23	Sensitive	28	Sensitive	—	—	Nil	Resistant
6	*Candida albicans*	22	Sensitive	—	—	15	Sensitive	Nil	Resistant
7	*Trichophyton rubrum*	20	Sensitive	—	—	15	Sensitive	Nil	Resistant
8	*Microsporum gypseum*	19	Sensitive	—	—	15	Sensitive	Nil	Resistant

Conclusion

The subject of herbal drug standardization is massively wide and deep. There is so much to know and so much seemingly contradictory theories on the subject of herbal medicines and its relationship with human physiology and mental function. The polyherbal formulation Biogest cream was standardized with respect to its Physical parameters, Pharmaceutical parameters, Chemical parameters including Qualitative, Quantitative analysis, Microbial parameters and by determining the percentage of curcumin for maintaining its batch to batch consistency. The formulation had shown good antibacterial and antifungal activity against the tested bacterial and fungal strains. Thus the study very clearly proved that this polyherbal combination can treat both primary and secondary infections on the skin, caused by multi-drug resistant strains of microorganisms from community as well as hospital settings.

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A Case of Steroid Induced Avascular Necrosis

A Case from Kerala Ayurveda Hospital

The patient named Arun Gopu (name masked), 28 years was admitted in this hospital on 26th October 2011 with complaints of cramping pain on both hip joints and stretching pain on left lower limb since one and half years. He had reddish skin lesions all over the body mainly on the scalp, hair lines, and neck since 2006. On the very day itself he was given: -

Mahaatiktakam decoction 15ml + 45ml lukewarm water at 6am and 6pm

Maanibhadra Gulam 1 teaspoon at bed time

Ostoact 1 – 0 –1

Coating (lepam) over Hip with Myaxil Cream + *Karutta-marmaani gulikaa*

Anointing with *Mahaatiktaka-ghrta*

Complete blood check up was done. No abnormality was detected. The case was diagnosed as deep rheumatoid disease *(gambheera-vaata-rakta)* with skin disease *(tvak- vikaara)*.

INVESTIGATIONS

27-09-2011 Biochemistry

FBS	80 mg/dl
S.Cholesterol	130mg/dl
HDL	28mg/dl
LDL	86mg/dl
VLDL	16mg/dl
TGL	80mg/dl;
S.Uric acid	3.8 mg/dl
S.Calcium	10.0mg/dl
S.Creatinin	0.7mg/dl
RA	Negative
ASO	183 IU/mL
CRP	12 mg/L
S. Bilirubin (T)	0.5 mg/dl
S. Bilirubin (D)	0.2 mg/dl
SGOT	22 U/L
SGPT	24 U/L
Alk. Phosphatase	199U/L
B.Urea	22 mg/dl.

Haematology

Haemoglobin	16.0 gm/dl
WBC Total	9000/cumm.
Neutrophils	70%
Lymphocytes	27%
Eosinophils	3%
ESR	5mm/hr

28/09/2011 Biochemistry

S.Sodium	148 meq/l
S.Pottassium	5.0 meq/l
TFT:	
T3	96 ng/dl
T4	5.40 ug/dl
TSH	1.58 uIU/ml
PTH	25.94pg/ml

21/10/2011 Biochemistry

RBS – 106 mg/dl

On admission the patient was using the following medicines

- Calcimax K2 0 – 0 – 1 after food (calcium with vitamins)
- Augmentin 625 1 – 0 –1 after food (antibiotic – Amoxycillin)
- Movon SP 1 – 0 – 1 after food (Aceclofenac 100mg, Paracetamol 500mg, Serratiopeptidase 15mg)
- Metrogyl 1 – 0 – 1 after food (metronidazole)
- Pantosec 1 – 0 – 0 before food

History of Present Illness

The patient was apparently normal before 2006. The skin lesions started with metal allergy on left wrist joint, diagnosed elsewhere as *psoriasis* and was on steroid treatment for 7 months. Later, on developing severe hip joint pain he consulted an allopathic doctor and as per the X-Ray and MRI reports on 02–07–2010 and 19–10–2011, the patient was elsewhere diagnosed with Steroid Induced Avascular Necrosis affecting both hip Joints.

Report on 07 – 02 – 2010

Anti TB IgM – 0.70Ng [negative:<0.8; border line:0.8 to 1.0; positive:>1.0]

Anti TB IgG – 138SU [adult : equivocal 125 to 225; negative 0.0 to 125; positive >225]

Anti CCP – 0.6U/ml

Mantoux Test – Negative





Report on 30 – 06 – 2010

ESR.....72mm/hr
RA..... Negative
CRP ..... Positive
Uris Acid.....5.3

MRI on 20 – 09 – 2011

Bilateral AVN grade III on right side and Grade IV on left side

Treatment Schedule

From 27 – 09 – 2011, the patient was on

GT Capsule 1 – 0 – 1

Dhaanvantaram decoction 15ml + 45ml warm water at 6am and 6pm

Aaragvadhaadi decoction ------- 15ml + 45ml warm water 10am, 4pm

Mahaa-tiktakam Ghrtam with decoction 1 tsp at 4pm

Cheriya-madhusnuhee Rasaayanam 1 tsp

Raasna Guggul tab. 1 – 0 – 1

External Treatment for 18 days

Oil pad *(picu)* with *Pinda Tailam*

Rice pouch fomentation *(njavara- kizhi)* (lower limbs)

Winsoria over the skin lesions

On 30 – 09 – 2011, the patient complained of more of stiffness in left hip joint and was given Nucart OA 2 – 0 – 2 along with the other internal medicines. With this drug he got relief with in a day.

On 04 – 10 – 2011, after 7 days of oil pad and rice pouch fomentation (lower limbs), patient felt pain in the left hip joint more in the morning hours and was given oil massage (abhyamga – full body) along with other treatments.

On 12 – 10 – 2011, patient complained of itching on forehead and constipation. He was given Histantin 1 – 1 – 1 along with the other internal medicines and dose enema *(maatraa-vasti)* with *Nimbaamrtaadi erandam* on alternate days.

On 13 – 10 – 2011 there was itching on forehead and pain increased. Pain in right hip joint increased and pain in left hip joint started to radiate down to ankle. He was given *Nimbaamrtaadi erandam* 2 tsp with milk and Remorin 1 – 0 – 1, internally and got relief.

On 14–10 – 2011, dose enema was again given with *Nimbaamrtaadi erandam* along with the other treatments (oil massage (full body), oil pad, rice pouch fomentation (lower limbs) and coating), but pain increased.

On 15 – 10 – 2011, after the 18 days of oil pad, rice pouch fomentation (lower limbs) and 11 days of oil massage (full body) the patient was purged with *Nimbaamrtaadi erandam* 25ml and patient had bowel evacuation 5 times.

Oil massage (full body) and oil pad continued and on 17 – 10 – 2011 dose enema with *Nimbaamrtaadi erandam* given.

On 18 – 10 – 2011 *Panjca-tiktaka* decoction enema was given. The enema consists of:

Panjca-tiktaka decoction ..450ml
Tiktaka ghrtam.....120ml
Honey 120ml
Paste..... 25gm
Rock salt..... 15gm

On seeing that swelling and pain increased on dose enema with *Nimbaamrtaadi erandam*, it was changed to *Pippalyaadi* from 19-10-2011 and patient got relief. Acetic irrigation *(kaady-dhaaraa = dhaan-yaamla dhaaraa)* (lower limbs) and coating *(lepam)* with *Jataamayadi coornam* on painful area was done for 2 days. Decoction enema and dose enema was done alternately for 3 days. i. e;

18-10-2011	Decoction enema
19-10-2011	Dose enema, oil pad, Acetic irrigation (lower limbs)
20-10-2011	Decoction enema, oil pad, Acetic irrigation (lower limbs)
21-10-2011	Oil massage, dose enema, oil pad

[Patient felt good relief.]

22-10-2011	Decoction enema, oil pad
23-10-2011	Dose enema, oil pad, Oil massage
24-10-2011	Oil massage, oil pad
25-10-2011	Oil massage Discharge

Coating was done during the entire course of treatment initially nwith Myaxil+*Karutta Marmani Gulika*, later changed to *Karutta Vattu+Jatamayadi choornam+kady* from 03-10-2011 twice daily.

The patient was discharged on 25-10-2011 with follow up medicines for 3 months and to have a review after 3 months.

Medicines on discharge

1. G T Capsule ..... 1 – 0 – 1
2. *Dhaanvantaram* decoction ..... 15ml + 45ml lukewarm water at 6am and 6pm
3. *Aaragvadhaadi* decoction ..... 15ml + 45ml lukewarm water at bed time
4. *Mahaa-tiktaka ghrtam* ..... 1 teaspoon once daily
5. *Ceriya-madhusnuhee rasaayanam* ..... 1 teaspoon once daily
6. Nucart OA ..... 2 – 0 – 2
7. Myaxil Pill ..... 1 – 1 – 1
8. Ostoact ..... 1 tablet daily
9. *Pinda-tailam* .....for external application over painful area
10. Winsoria.....over skin lesions before bath
11. *Rasottamaadi lepam* .... over skin lesion after bath

Total Course In The Hospital

1. Purgation *(virechanam)* for 1 day
2. Rice pouch fomentation (lower limbs) for 18 days
3. Dose enema for 6 days
4. Decoction enema for 6 days
5. Oil pad for 26 days
6. Coating for 18 days
7. Oil massage (full body) for 18 days

Condition of patient at Discharge

Pain in both hip joints reduced and skin lesions on whole body faded. Patient feels better.

X-Ray on 22 – 10 – 2011 showed improved femur head morphology and right femoral head more or less showing a normal architecture. Left femoral head shows more fibrous tissue.

Review form the patient on 06-02-2011

Pain on both hips reduced and early morning stiffness lessened. Limping is still present. Skin lesions are better and almost gone. ●

Detoxify Regularly

Regular detoxification of the body is advised by Ayurveda to maintain good health. Seasonal variations make changes in the humoral status of the body. Vaata accumulates in summer and aggravates in the rainy season. Pitta accumulates in the rainy season and aggravates in the falls. Kapha accumulates in winter and aggravates in spring. The humors are to be eliminated during their accumulation stage itself. If they are permitted to aggravate, they will cause maximum damage to the health. It is like the overflow of a dam. The dam should be drained by opening the shutters before it overflows. If not it will overflow and flood the country. Once the flood is set in the withdrawal of flood water will be very slow. It will drown the city and cause maximum damage. Hence, in the case of the body we should not permit overflow of humors by aggravation. Hence we will have to execute elimination therapy at the stage of aggravation itself.



The elimination therapy could be done only in ordinary months. Ordinary months are months without high cold, heat and heavy rains. According to the Indian calendar the months of Sraavana, Kaartika and Caitra are the ordinary months suitable for eliminating vaata, pitta and kapha respectively.

Apart from eliminating the accumulated humors eliminate all sugar from your diet for ten days to two weeks. Sources of sugar include carbonated soft drinks, candy, alcohol, baked goods, cookies, cakes, ice cream, corn syrup, high-fructose corn syrup, dextrose, maltodextrins, and concentrated fruit juice sweetener. Before using canned and bottled food please read the label and make sure that the content is harmless. It will balance the blood sugar levels and help to loose weight. It will also increase energy, activate the immune system and regulate mood.

Analytical study of "*Panjca-paashaṇa-sindoora*" with special reference to its toxicity in Albino Rats

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Abstract:

Analytical study of a chemical formulation *(rasaushadhi)* named *'Panjca Paashaṇa Sindoora'* was carried out and its toxic study was conducted in albino rats. The formulation contains Arsenic tri-oxide *(Gauree-paashaaṇam)*, Cinnabar (*hingula* - Mercurous sulphide), Mercurous chloride *(rasa-karpoora)*, sulfur *(gandhaka)* and magnetic iron *(kaanta)* triturated in juices of *Harita manjari (Acalypha indica.L)*, betel leaves *(tamboola – Piper betel)*, Cotton *(kaarpaasa – Gossypium herbacium.*L*)*, *Ericostemma axillere* Lam *(naaga-gihvaa)*, holy basil *(tulasee - Ocimum sanctum)*, *Perguilaria daemia (yugaphalaa)*, trailing eclipta (*bhringa raja - Eclipta alba.L)*. On analysis the elements present after the preparation of drugs were sulphate- 50.40 %, iron – 0.15 %, chloride – 2.66 %, Arsenic – 47.3 %, Mercury - 0.23 %. The presence of high percentage of sulphates support the vision of ancient chemotherapists (physicians practicing *rasa-ṣaastra*) that *Panjca-paashaṇa sindoora* has palliative effect in the treatment of cancer. The presence of arsenic and mercury helps in depressing cellular metabolism by combining with sulphydryl enzymes. The presence of about 47.3 % of arsenic proves the anti-cancerous effect of drug. Toxicity studies comprises of acute toxicity study and sub-acute toxicity study. In acute study 5 groups of rats were employed. The first group was control group and the other groups were administered with dosages, half of the clinical dose, clinical dose, double the clinical dose and four times of clinical dose respectively. From the results it was found that there was no toxicity for the drug in its clinical dose and double dose. Rats administered with four times of clinical dose showed slight disturbance like ataxia, sedation and stimulation of respiration. In sub-acute study 5 groups were selected with different duration of drug administration. First was control group, other groups were with 7 days drug administration, with 7 days drug administration and 7 days without drug, with14 days drug administration, and 21 days administration. From haematological values, liver function study and histopathological evaluation, the study reveals that the test drug is safe in clinically used dosage for a limited period of 7 days. In long duration of administration, the functional aspects of the body are slightly affected and histlogically organs are affected.



1. Introduction

Panjca-paashaṇa-sindoora is an effective mineral formulation mentioned in the Classical text Rasa-raaja-taraṃgini. It was widely used by the Rasa-ṣaastra physicians in the ancient days for treating malignant conditions.

Mineral Ingredients

Gauree paashaaṇa – Indicated in generalized edema, internal growth, anaemia, ascitis, asthma, cough, fever, filariasis, syphilis and arthritis. The drug increases kapha.

Hingula - Indicated in diabetes, skin diseases, fever, indigestion, heart diseases, hyper acidity, jaundice, spleen diseases, rheumatic fever, toxic conditions etc.

Rasa-karpoora – Anti- amoebic, dermatological conditions especially psoriasis. Conception of the drug should be limited to a minimum dosage for a short period. Otherwise it is nephrotoxic.

Gandhaka - Pruritis, skin disorders, boils, taenia infestations, toxic conditions, worms spleen disorders, graying of hair, eye diseases, fever and E.N.T diseases.

Kaanta - Indicated in edema, anemia, jaundice, graying of hair, skin disorders, internal growths, stomachache, piles, fistula, liver-spleen disorders and hyper acidity.

2. Materials and Methods

2.1 The pharmaceutical study was conducted at Raṣa-saastra lab, Government Ayurveda College, Thiruvananthapuram.

2.2 Preparation of *panjca- paashaṇa-sindoora*. The purified mineral drugs, 300 grams each were powdered, properly mixed and subjected to trituration *(bhaavanaa)* in each of the seven specified herbs for twelve hours each. Each of the seven drugs - *harita manjari, tamboola, kaarpasa, naagajihvaa, tulasee, yuga-phalaa, bhringa-raaja* were freshly collected at the respective occasions of grinding. The ground semi solid red colored mass is made into pellets *(cakrikaa)*. These pellets were subjected to incineration. After incineration 50 grams of drug was collected.

2.3 Analytical study- The analytical study was conducted at Geological Survey of India, Palayam, Thiruvananthapuram and Shiva Analyticals (INDIA) Ltd., Hoskote, Bangalore.

The result of estimation was

1. Sulphur as sulphates – 50.40 %
2. Iron – 0.15 %
3. Chlorine as chloride – 2.66 %
4. Ash value – 0.73 %
5. Acid insoluble ash – 0.34 %
6. Loss on drying at 1100C – 0.77 %
7. Arsenic – 47.3 %
8. Mercury – 0.23 %

Majority of drug is constituted by sulphates and arsenic.

2.4 Toxicity study- Toxicity study comprises of

1. Acute toxicity study
2. Sub-acute toxicity study

Toxicity study was conducted at College of Pharmaceutical Sciences, Medical College, Thiruvananthapuram.

ACUTE TOXICITY STUDY:

Selection of animals:- 30 healthy albino rats of both sexes with varying weights between 160 – 200 grams were collected from the animal house functioning under Department of Agada-tantra, Government Ayurveda College, Thiruvananthapuram.

Dose: - The prescribed human adult daily dose of *Panjca-paashaṇa-sindoora* according to classical reference is 375 mg. According to 'Fundamentals of experimental pharmacology', the dose was fixed as 6.75 mg.

As the drug has toxic ingredients the doses are fixed from half the clinical dose. i. e, for

Group I – considered as positive control; administered 1 ml of 1% solution of acasia / 200 gm body weight of rat. i.e., 5 ml / kg. body weight

Group II – 3.38 mg in 1 % acasia solution (16.9 mg/kg body weight)

Group III– 6.75 mg in 1 % acasia solution (33.75 mg/kg body weight)

Group IV – 13.5 mg in 1 % acasia solution (67.5 mg/kg body weight)

Group V – 27.0 mg in 1 % acasia solution (135 mg/kg body weight)

Mode of administration:- As the drug was a fine powder, it is mixed with a suspending agent i.e., 1 % acacia solution.

Method of acute toxicity study: - All animals were kept unfed for 18 hours to effect fasting and then weighed. After that the drug was administered orally according to the bodyweight of albino rats. The animals were kept in different cages and continuously watched for two hours, then intermittently for further four hours and then occasionally, for further six hours. Mortality up to 24 hours, feed and water intake, bodyweight and the system wise observation and examination were noted and signs recorded. During the course of study animals were supplied with feed and drinking water.

Observation:

The behaviour of the injected animals was observed and the following signs were shown by the fifth group which was given a dose of 135 mg/kg. body weight.

1. Decreased motor activity
2. Slight sedation
3. Stimulation of respiration for first 15 minutes, then normalised.

Sub-acute toxicity study

36 healthy albino rats were divided into 5 groups,

Dose:

Group I– (16 Rats) – Considered as positive control and administered with 1 ml of 1 % acasia solution.

Group II – (5 Rats) – Clinical dose of 6.75 mg for 7 days.

Group III – (5 Rats) – Clinical dose of 6.75 mg for 7 days and 7 days without any drug.

Group IV – (5 Rats) – Clinical dose of 6.75 mg for 14 days

Group V – (5 Rats) – C linical dose of 6.75 mg for 21 days

Method of sub acute toxicity study:

The drug was administered once daily at a particular time for seven days, 14 days and 21 days for respective groups. The 4 animals of group I and all the animals of group II were weighed and sacrificed on the 8th day.

Four animals of control and all the animals of group III and IV were weighed and sacrificed on the 15th day.

Four animals of control and all the animals of group V were weighed and sacrificed on the 22nd day.

The blood was collected from each animal of all groups for haematological parameters and bio chemical parameters. The blood was collected in a small bottle containing EDTA to avoid clotting. 5 ml is collected, 1 ml for haematological parameters and 4 ml for biochemical parameters. Vital organs like liver, kidney and spleen were carefully dissected and weighed. The vital organs were washed and fixed in 10 % formalin solution and given for histopathological study with haematoxylin and eosin stain. The haematological and histopathological studies were done at Priya Labs, Pettah, Thiruvananthapuram.

3. Analytical findings

1. Effect of *Panjca-paashaa<u>n</u>a-sindoora* on Haemoglobin count:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	12.10±1.789								
II	7 days	8.03 ±1.789	394.076	<0.001						
III	7days+7days without drug	9.04 ±3.162	206.305	<0.001	68.094	<0.001				
IV	14 days	10.0 ±1.414	225.576	<0.001	211.612	<0.001	67.882	<0.001		
V	21 days	8.24 ±2.608	298.994	<0.001	16.267	<0.001	47.809	<0.001	145.327	<0.001

(Values are in gram percentage)

The results show a decrease in Hb % of rats administered with the drug. This may be due to less feed intake. On statistical analysis, there were high significance for each and every comparisons.

2. Effect of *Panjca-paashaa<u>n</u>a-sindoora* on WBC count:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	3414±66.21								
II	7 days	3200±219.0	2.290	<0.05						
III	7days+7days without drug	3800±346.4	2.681	<0.05	3.586	<0.01				
IV	14 days	3500 ±209.7	0.958	N.S.	2.423	<0.05	1.815	<0.10		
V	21 days	2800 ±219.0	6.571	<0.001	3.162	<0.05	5.976	<0.001	5.683	<0.001

(Values are in cubic mm) (N.S. —not significant)

The mean value of the group administered with drug for 21 days showed a reduction in the WBC count. Statistical analysis showed high significance for this change on comparison with control group. This change was also significant when compared with other groups also.

3. Effect of *Panjca-paashaa<u>n</u>a-sindoora* on ESR count:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	2.65±0.1871								
II	7 days	3.0±8.944	4.134	<0.01						
III	7days+7days without drug	3.0±0.200	3.130	<0.05	0.00	N.S.				
IV	14 days	2.0 ±0.1789	6.151	<0.001	12.247	<0.001	9.129	<0.001		
V	21 days	2.0 ±0.1414	6.789	<0.001	14.639	<0.001	10.00	<0.001	0.00	N.S.

(Values are in mm / 1 hour)

The mean values didn't show any markable difference. For the II and III group least statistical significance was elicited when compared with control. The rats which were administered with the drug for 14 days and 21 days show a slight decrease in their count but were statistically highly significant. Comparison of II with IV and V and III with IV and V were highly significant.

4. Effect of *Panjca-paashaa<u>n</u>a-sindoora* on Blood urea count:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	36.66±04684								
II	7 days	31.0±0.7071	16.346	<0.001						
III	7days+7days without drug	36.0±0.2608	3.016	<0.05	16.251	<0.001				
IV	14 days	40.0 ±1.5166	5.154	<0.001	13.175	<0.001	6.367	<0.001		
V	21 days	19.0 ±1.5166	27.253	<0.001	17.566	<0.001	27.060	<0.001	23.984	<0.001

(Values are in mg / 100ml)

The observations showed a decrease in mean value of group administered with the drug for 21 days.
On statistical analysis, the change in the values of the animals of group II, IV and V were highly significant when compared with control. All the other comparisons were significant.

5. Effect of *Panjca-paashaana-sindoora* on Serum creatinine level:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	0.84±8.295								
II	7 days	1.10±0.1789	3.230	<0.01						
III	7days+7days without drug	1.20±0.1789	4.472	<0.01	0.968	N.S.				
IV	14 days	1.60 ±0.2828	6.316	<0.001	3.660	<0.01	2.928	<0.05		
V	21 days	0.90 ±0.2608	0.537	N.S.	1.549	N.S.	2.324	<0.05	4.457	<0.01

(Values are in mg / 100ml)

The mean values showed a rise and then decreased in 21 days drug administration. On analysis,the group IV showed high significance in its values when compared with control. All other comparisons were significant except I with V and II with III and V.

6. Effect of *Panjca-paashaana-sindoora* on Serum bilirubin level:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	0.84±8.025								
II	7 days	1.6±0.1789	9.495	<0.001						
III	7days+7days without drug	1.80±0.1789	0.500	N.S.	7.746	<0.001				
IV	14 days	1.70 ±0.1789	1.749	N.S.	8.714	<0.001	0.968	N.S.		
V	21 days	0.80 ±0.1789	0.500	N.S.	7.746	<0.001	0.000	N.S.	0.968	N.S.

(Values are in mg / 100ml)

The mean values showed a rise in groups with seven days drug administration and then decreased.
On statistical analysis only this group showed significance in its value when compared with control.
Comparison of II group with all the other administered groups were also significant.

7. Effect of *Panjca-paashaana-sindoora* on S.G.O.T. level:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	16.83±7.772								
II	7 days	32.0±1.7889	20.753	<0.001						
III	7days+7days without drug	25.0±1.4142	14.130	<0.001	7.519	<0.001				
IV	14 days	27.0±2.5298	9.842	<0.001	3.953	<0.01	1.690	N.S.		
V	21 days	17.0±1.7889	0.233	N.S.	14.524	<0.001	8.593	<0.001	7.906	<0.001

(Values are in unit / ml of serum)

The mean values showed a rise and then decreased to the normal in those administered with drug for 21 days. Statistically the change in values except of those with 21 days showed high significance when compared with control.
Comparison of II with III and V were highly significant. Also III with V and IV with V were highly significant.

8. Effect of *Panjca-paashaana-sindoora* on S.G.P.T. level:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	14.83±0.4032								
II	7 days	37.0±1.7889	29.614	<0.001						
III	7days+7days without drug	31.0±1.7889	21.60	<0.001	5.809	<0.001				
IV	14 days	21.0±1.4142	10.277	<0.001	17.187	<0.01	10.742	<0.001		
V	21 days	20.00±1.4142	8.611	<0.001	18.261	<0.001	11.816	<0.001	1.225	N.S.

(Values are in unit / ml of serum)

There was a rise in the S.G.P.T values of all the groups.This increase was highly significant statistically when compared with control.
Comparison of groups II and III with other longer durations were also highly significant.

Results of study of changes of vital organs

1.Effect of *Panjca-paashaaṇa-sindoora* on Liver volume:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	6.33±2.966								
II	7 days	6.69±3.464	19.335	<0.001						
III	7days+7days without drug	6.61±3.847	14.118	<0.001	3.785	<0.01				
IV	14 days	7.00±4.622	30.252	<0.001	13.499	<0.001	16.224	<0.001		
V	21 days	7.25±9.737	22.140	<0.001	13.273	<0.001	14.974	<0.001	5.492	<0.001

(Volume of liver in ml)

On statistical analysis the change occurred in volumes of the liver showed high significance when compared with control.Change of III compared with II was significant.All the other changes were highly significant.

2.Effect of *Panjca-paashaaṇa-sindoora* on kidney volume:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	1.96±7.457								
II	7 days	2.08±4.604	3.354	<0.05						
III	7days+7days without drug	2.11±5.404	3.990	<0.01	1.035	N.S.				
IV	14 days	2.27±4.899	8.511	<0.001	6.922	<0.001	5.373	<0.001		
V	21 days	2.39±4.00	12.448	<0.001	12.450	<0.001	10.202	<0.001	4.648	<0.001

(Volume of kidney in ml)

On statistical analysis, the volume changes of kidneys of group II and III showed significance and group IV and V showed high significance when compared with control. Change of III compared with II was not significant. All the other changes were highly significant

3. Effect of *Panjca-paashaaṇa-sindoora* on Spleen volume:

			Comparison of groups							
			I to others		II to others		III to others		IV to V	
Group	Period	Mean ± SD	t	p	t	p	t	p	t	p
I	Solvent control	0.76±0.1053								
II	7 days	0.81±1.414	1.153	N.S.						
III	7days+7days without drug	0.88±4.243	2.590	<0.05	3.834	<0.01				
IV	14 days	0.97±3.286	4.665	<0.001	10.954	<0.001	4.108	<0.01		
V	21 days	1.06±4.243	6.475	<0.001	13.693	<0.001	7.348	<0.001	4.108	<0.01

Volumes of spleen of group administered with drug for seven days did not show any statistical significance compared with control. Groups IV and V showed high significance in the volume change when compared with control. Comparison of II with IV and V were highly significant. Comparison of III with V also was highly significant.

Results of histopathological studies:

The group administered with 1 % acasia solution showed normal histology of liver, kidney and spleen.

The group administered with test drug for 7 days showed glycogen infiltration and mild degeneration in their livers. Kidneys showed cloudy swelling of the cells of tubules.

Spleen showed congestion and presence of prominent lymphoid follicles.

The group administered with test drug for seven days and kept with out drug for seven days also showed changes of degeneration in their livers. Kidneys showed cloudy swelling of the tubular cells with mild degeneration. Degenerative changes in glomeruli were also present.

Spleen showed congestion, lymphoid hyperplasia and degenerative changes.

The group administered with 14 days showed degenerative changes and necrosis of liver. In kidneys necrotic changes of the tubular cells and degenerative changes of glomeruli were present. The spleen showed congestion, hyperplasia of lymphoid follicles and

degenerative changes.

The group administered for 21 days showed degenerative and necrotic changes of the liver. The kidneys showed necrotic changes of the tubular cells and degenerative changes of the glomerulus. Spleen showed congestion, hyperplasia of lymphoid follicles and degenerative changes.

DISCUSSION

The presence of about 50.40 % of sulphates strengthens the claim of old *Rasaṣaastra* physicians that *Panjca-paashaaṇa-sindoora* has palliative effect in the treatment of cancer. Sulphur containing drugs are used in chemotherapy of cancer treatment. In Homeopathy also, sulphur is used as an antidote for mercury which substantiate the antitoxic effect of sulphates in *Panjca-paashaaṇa-sindoora* containing mercury.

The presence of arsenic and mercury helps in their respective actions of interference and depression of cellular metabolism by combining with sulphydryl enzymes. By this mechanism the drug may be controlling the proliferation of cells in malignancies.



The presence of about 47.3 % of arsenic proves the anti-cancerous effect of drug .Because there is a recent study that a form of arsenic was able to stop leukaemia in two-thirds of patients, causing only minimal side effects. The study completed at Memorial Sloan-Kettering Cancer Centre in New York, administered the compound arsenic tri oxide on 12 patients terminally ill with a rare form of the disease called acute promyelocytic leukaemia or APL. For eight of the patients the disease went into full remission for up to ten months. According to the researcher the arsenic induces a programmed cell death and these cells are then naturally eliminated by the body.

The results of acute study inferred that there were no toxicity for the drug in its clinical dose and double dose. In group IV the animals showed slight disturbances like ataxia, sedation and stimulation of respiration In clinical practice usually Rasa drugs are not tried beyond their classical dosages due to their toxic nature. Even though the dose of *Panjca-paashaaṇa-sindoora* is 375 mg it is usually prescribed in dosage of 250 mg only. Because of this toxic nature the drug was administered in half of clinical dose to the I group. In acute toxicity study thus it is proved that the drug is safe in its clinical dosage.

Normally sub acute toxicity study is conducted in multiple dosages. The metals and minerals present in *Panjca-paashaaṇa-sindoora* are highly toxic in nature and acute study showed toxic changes in higher doses. So the sub acute toxicity study was conducted in different durations with normal clinical dose.

The results of sub acute study did not show any drastic or harmful changes in its haematological values and liver function tests. On statistical analysis haemoglobin, eosinophil and monocyte counts showed high significance when compared with that of the solvent control. In all group comparisons the reduction in Hb% was highly significant. Neutrophil and lymphocyte count change in groups III, IV and V were significant compared to groups II, III and IV with shorter duration of drug administration respectively. Reduction in eosinophil and blood urea counts were also significant in groups III, IV and V compared with groups II, III and IV respectively.

The haemoglobin percentage was decreased due to the less intake of food. Reduction of W.B.C. indicates the need of experimental study of the drug in cancer induced animals. The reduction in eosinophil count shows the anti allergic capacity of the drug. The mean values of the E.S.R. count shows the absence of any tissue destruction. The increase in blood urea shows the functional over load of kidneys. The mean values of serum creatinine shows the absence of any renal incompetence.

Thus it is proved that in sub acute toxicity study the functional aspects of the body are not affected.

In liver function test, SGPT and serum protein values showed high significance in statistical analysis when compared with control group. Changes in serum alkaline phosphatase and serum albumin were also significant for all groups when compared with solvent control. The changes of serum bilirubin in III, IV and V groups compared with II group were highly significant.

The serum bilirubin has an initial rise in mean values but afterwards stabilised. SGOT, SGPT and serum alkaline phosphatase increase shows the liver functions are highly interfered. But SGOT and SGPT values initially rose up to seven days and after wards came down near to the normal.Serum alkaline phosphatase, serum protein and serum albumin values also has a rise and then descended.

Thus the functions of the liver is initially disturbed but later it is normalised and stabilised.Thus it is proved

that in sub acute toxicity study the liver functions are not affected.

Change in liver volume was highly significant in drug administered groups compared with control. Change in volume of kidney was significant in drug administered groups compared with control. In comparison of groups III, IV and V with groups II, III and IV repectively liver and spleen volume changes were significant. Change of spleen was not significant in group II compared with control.

The study of vital organs showed slight enlargement which indicates the histological affection of the test drug. The histopathological study revealed the changes of liver, kidney and spleen of group II with seven days drug is reversible. Even though the group III showed progress in degenerative processes, these changes were also reversible. The group IV showed slight necrotic changes of the liver and kidney which were irreversible. The group V showed degenerative changes of all the vital organs which were irreversible. There were necrotic changes of liver and kidney also. The degenerative changes are always reversible and necrotic changes are irreversible. Thus the rats with clinical dose drug administration showed reversible changes only. But, as the drug is administered in chronic, toxic and malignant conditions of the body, these toxic effects did not play a negative role in checking the efficiency of the drug.

The toxicity study reveals that the test drug is safe in clinically used dosages for limited periods of 7 days. In long duration of administrations, the functional aspects of the body is slightly affected and histologically organs are affected.Thus the hypothetical conclusion is *panchapashana sindoora* is a combination with less toxicity in fixed dosages for 7 days.

Acknowledgement

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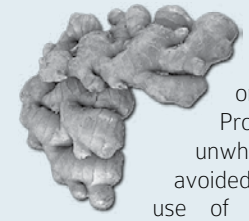
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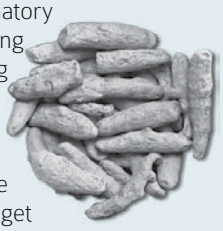
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Sort out your food

There are food substances that promote inflammation and inhibit inflammation. Food substances that facilitate inflammation are termed pro-inflammatory and those that check inflammation are called anti-inflammatory. Ayurveda always held that food may be wholesome or unwholesome. Some food substances are always wholesome. We should use only such food substances on a regular basis. Pro-inflammatory food is unwholesome and should be avoided. Today unfortunately the use of pro-inflammatory food is steadily increasing because of the changed eating habits of the multitude. Colouring agents, artificial flavouring substances and chemical preservatives are widely used in the food we get from fast food outlets and restaurants. These chemicals pervade even our home kitchen-shelves. Fried foods, diary products, meats, sugar, egg plant and other members of the same family (Solonaceae) such as red chilly, tomatoes and potatoes are pro-inflammatory. So use them in moderation. Garlic, ginger, turmeric, berries, pineapple, papaya, apples, onions, broccoli, leafy vegetables, wild fish, raw seeds and nuts (except peanuts) are considered as anti-inflammatory. Many of them have antioxidant property too. Hence include them in your diet.











Diseases of Female Genitalia due to Improper Coitus

1. *Vaatikee* – Coitus in difficult poses, excessive coitus, polluted menstruation, use of objectionable substances (for masturbation), polluted gamete and unknown etiology vaata is polluted and causes pain, pricking pain, spasm and numbness of vagina. There may be feeling of creeping ants, stiffness and hardness in the vagina. Gas will emit with sound from the vagina. The menstrual blood will be scanty, brownish black and dry. The vagina may prolapse. There may be pain in the loins and flanks. Gradually phantom tumors and many other complications may occur.

2. *Ati-caranaa* – is caused by excessive coitus. Here in addition to the symptoms of vaatikee, edema (swelling) also will be present.

3. *Praak-caranaa* – When a premature girl engages in coitus, the vagina will be polluted by vaata. She will also have backache, and pain in the loins, thighs and shanks.

4. *Udaavarta* of vagina (dysmenorrhea) – In this condition menstruation will be highly painful. Froathy menstrual blood will be released with difficulty.

5. *Jaataghnee* – In this there will be stillbirths again and again. This is due to pollution of ovum by dryness of vitiated vaata.

6. *Antar-mukhee* (introspection of vagina) – On engaging in coitus in a difficult pose, immediately after too much of food, the vagina will be drawn in and generate severe pain.

7. *Soocee-mukhee* (vaginismus) – Habitual consumption of food aggravating vaata may constrict the vagina making coitus very painful.

8. *Sushkaa* (dryness of vagina) – Suppression of natural urges causes obstruction of feces and urine and generates dryness of vagina. Lac of natural secretions and lubrication will make coitus very painful.

9. *Vaaminee* – The uterus will expel the semen in six or seven days after coitus. This will cause sub-fertility.

10. *Shandaa* – This is a genetic disorder. The person will lack female characteristics and will hate men. The breasts will not develop. The genitals and sexual organs will be underdeveloped. The condition is incurable.

11. *Mahaa-yoni* – Due to vitiated vaata, the vagina and external opening of uterus is enlarged and the body of uterus prolapses through the vagina.

12. *Paittikee* – (inflammation of vagina and uterus). This is due the vitiation of pitta. There will be burning sensation, pus formation, localized heat and foul smell in the vagina. Fever also will be present. The menstrual blood will be hot, putrid and discolored with bluish yellowish and whitish hue.

13. *Rakta-yoni* (menorrhagia) – Excessive menstruation.

14. *Slaishmikee* – is due to kapha. There will be no pain. There will be cold, pale, sticky secretion from the vagina. There will be pruritus vulvae.

15. *Lohita-kshayaa* (oligomenorrhea) – Scanty menstruation due to aggravation of vaata and pitta. There will be burning sensation, emaciation and discoloration of skin.

16. *Pariplutaa* – When women with aggravated pitta, suppresses the urges of sneezing and belching during coitus the vagina will be polluted with vaata. It causes edema, tenderness, pain in the vagina and blood vessels will be bluish yellow. Heaviness of bladder and abdomen, diarrhea, anorexia and fever will attend. Pain and pricking pain will be there in pelvis and loins.

17. *Upaplutaa* – Is caused by vaata and kapha. Here sticky mucoid secretion will ooze out of the vagina.

18. *Viplutaa* – Because of not washing the vagina regularly, there will be pathogens and parasites in vagina causing itching. The women demands frequent coitus due to the itching. Mostly fungal infections cause the condition.

19. *Karninee* – Papilloma or warts of the vagina causing blockage of the vaginal tract.

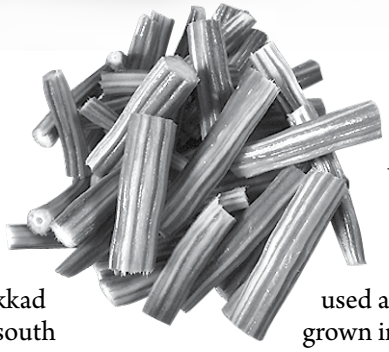
20. *Saannipaatikee* – This is a disease of the uterus due to trihumoral vitiation. It may cause many complications.

All the twenty diseases may cause infertility. They may Severe complications such as uterine bleeding, hemorrhoids and phantom tumor. ●



Saambaar

Saambaar is a South Indian curry which is consumed with rice as well as *iddli* or *dosa*. There are different varieties of *saambaar* as the ingredients can change according to availability and need. In essence saambaar is a spiced vegetable soup and is a healthy food. But many doctors do not like it to be used by patients as they think that it might cause gas trouble. Dr. P. S. Varrier, the founder of Arya Vaidya Sala, Kottakkal has written an article about the merits of this curry in his magazine 'Dhanvantari' decades back. He is of the opinion that *saambaar* is a healthy food. The wholesomeness and unwholesomeness of *saambaar* depends on the ingredients and the method of cooking it. Classically there are two types of *saambaar* – *saambaar* of Palakkad and *saambaar* of south Kerala. The North Kerala *saambaar* is prepared with the paste of fried coconuts. In South Kerala *saambaar*, coconut is not used.



The ingredients of *saambaar* may vary considerably and according to the main vegetable used, there are various types of this preparation. In onion saambaar the only vegetable used is small onions.



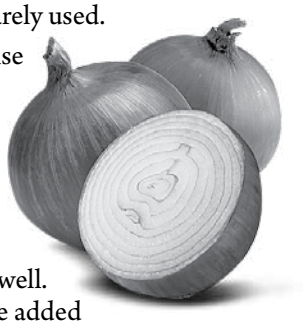
In ladies finger (Hin. bhindee) *saambaar* only *bhindee* is used as vegetable. But a classical *saambaar* is a mixed vegetable curry. In classical *saambaar* of Kerala new generation vegetables such as carrots, cauliflower, potatoes, beet root and tomato are not used and mostly vegetables grown in Kerala are used. But now time has changed and new generation vegetables also find place in the assortment of vegetables used for saambaar. Cluster beans, elephant foot yam, colocasia, ladies finger, brinjal, green chillies, cucumber, ash gourd, pumpkin, bottle gourd, drumstick etc. are the usual vegetables used for preparing *saambaar*. Now instead of elephant foot yam and colocasia,





tubers such as carrot, potato and beet root are incorporated. Tamarind is mixed with water and is used to cook the vegetables. Now many prefer chopped tomatoes in place of tamarind.

Some pulse is incorporated in *saambaar*. Classically it was red gram *(Cajanus cajan = C. indicus = tuvar daal)*. But nowadays daal of chick pea (Bengal gram = *Cicer arietinum*) is preferred in bulk preparations. Green gram may be ideal for patients but it is rarely used.



First cook the pulse and make a stock. To this add chopped vegetables, tamarind water, salt and turmeric powder and boil so that the vegetables are boiled well. The vegetables may be added also in sequence. Onions (small) require more cooking time and hence are added first. Chopped tomatoes are to be added towards the end of cooking. When well cooked the preparation is seasoned with mustards, curry leaves and chopped onions. In this issue we are providing the recipe of a special *saambaar*, called *Onam Saambaar*. *Onam (sraavanam)* is the September fest of Kerala. Onam is characterized with feasts. This special *saambaar* is cooked in connection with the festive occasion.

Ingredients

1. Tuvar dal 1 cup
2. Vegetables
   Peeled and chopped potatoes 3 nos.
   Drum stick fruit 2 nos.
   Lady's finger (chopped approx 4 cms.) 6 nos.
   Large onions (peeled and chopped into four) 2 nos.
   Small onions (peeled) 1 cup
3. Red chilly powder 1 desert spoon
   Turmeric powder half teaspoon
4. Green chilly (split tip) 6 nos.
5. Tamarind water – q. s.
   (tamarind paste mixed with water) Salt (to taste)
6. Dried red chilly 8 nos.
   Dried coriander seeds 4 desert spoons
   Fenugreek half teaspoon
7. Asafetida one small piece (fried and powdered)
   Cumin seeds a pinch
8. Coconut oil 1 desert spoon
9. Curry leaves – 2 pods
   Chopped dried red chilly 6
   Mustard seeds 1 teaspoon

Method of preparation

Cook the dal with water. Add the vegetables and continue cooking. In a frying pan pour a little oil and fry the ingredients of item six. Powder them. Heat the cumin seeds and powder them separately. When the vegetables are cooed properly, stir slowly with a spoon and add the green chillies. When they also are cooked add tamarind water and salt. Mix a little water to the powders of items 3, 6 and 7 and pour it to the boiling mixture on stove. When the mixture is of desired consistency stop cooking.

Pour the remaining oil in the frying pan and heat. Add items number nine and fry. Season the cooked *saambaar* with this. *Onam Saambaar* is ready to serve. ●

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Vettumaaran Pill



Vettumaaran pill is a valuable formulation adopted by Ayurveda from *Siddha* system of medicine by the aged physicians of Kerala. It is included in the Keralite text 'Sahasra-yogam'[Gulika 60] though the verse is still in Tamil. The pill is indicated in fever and viral diseases like small pox, chicken pox and measles. The name indicates that the pill will relieve convulsions (Tamil *vettu* = fits; *maaran* = reliever) and is highly useful in fits associated with hypothermia.

The pill contains cinnabar (red sulfide of mercury) and hence should be used judiciously. Moreover it also contains Indian aconite (monk's hood = *Aconitum napellus* Linn. = A. ferox Wall. of the family RANUNCULACEAE.). This is a schedule I drug. That means it is a poison. This is purified before incorporating in the formulation to reduce its virulence.

Purification of Indian aconite

The drug is chopped into small pieces and immersed in cow's urine and dried in sun for three days. Then it is washed in pure water and shade dried. This procedure renders the drug medically applicable.

Purification of borax

Borax is fried in a dry pan to eliminate its water of crystallization and powdered. This makes the drug fit for medical use.

Purification of cinnabar

Cinnabar is triturated with the juice of fresh ginger for seven times and dried in shade. (Drying under direct sunlight will make the cinnabar dark in color).

Ingredients

1. Cinnabar (purified)
2. Borax (fried)
3. Indian aconite (purified)
4. Black pepper
5. Ajowan (items 1-5 equal parts)
6. Fresh ginger juice (q.s.)

Procedure

The ingredients 1-5 are powdered and ground well with ginger juice till the combination is micro-fined. The ground mass is rolled into pills of the size of green gram and shade dried. The dried pill will approximately weigh 60 mg.

Dose: 1-2 pills (125 mg)

Indications and additives

Fever – in juice of fresh ginger

Gas trouble – in decoction of cumin seeds

Vomiting – in the juice of zedoary

Retention of urine – in the water of aged coconut

Abdominal colic – in the decoction of ajowan

Phantom tumor – juice of garlic

In fever it is usually given with *Amṛtaariṣṭa* or *Amṛtottaram* decoction

Caution

Do not administer the drug for long periods as it contains mercury. Keep the pills in a cool place lest the mercury might separate and free mercury in the pill may cause poisoning.

Special note

The pill administered with *Sudarṣanam* powder is very useful in viral fever. ●

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Each tablet is prepared out of :

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2. *Andrographis paniculata* (Bhunimba) .....60 mg
3. *Picrorrhiza kurroa* (Kutki) .....60 mg
4. *Tinospora cordifolia* (Guduchi) .....45 mg
5. *Piper nigrum* (Maricha) .....15 mg
6. *Azadirachta indica* (Nimba) .....15 mg
7. Annabhedi .....15 mg

Dosage:
1- 2 tablet twice daily or
as directed by the physician.

Presentation:
Box of 10 blisters of 10 tablet.

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Builds up body's defence mechanism through improved phagocytosis.

Devoid of Gastritis, hyper acidity, specific sensitivity, allergy and offers long lasting results.

KERALA ayurveda™
wellness, naturally

Composition:
Each tablet is prepared out of :

Commiphora mukul (Gugul)	260 mg
Boerhaavia diffusa (Punarnava)	52 mg
Emblica officinalis (Amla)	52 mg
Terminalia chebula (Haritaki)	52 mg
Terminalia belerica (Bibhitaki)	52 mg
Asteracantha longifolia (Kokilaksha)	16 mg
Hemidesmus indicus (Sariba)	16 mg
Chayilyam (Processed)	30 mg

BIOGEST

Dosage:-
2 tablets thrice daily in acute conditions.
1-2 tablets twice daily in chronic conditions or as directed by the physician.

Presentation:-
Box of 10 blisters of
10 tablets and 500 nos. in container.

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