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A JOURNAL ON EVOLVING AYURVEDA

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Vol. 5. Issue 1&2 ■ Jan - Mar & Apr - Jun 2012

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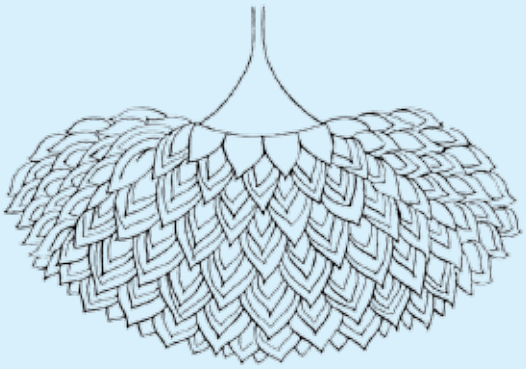
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न कञ्चिदात्मनः शत्रुं नात्मानं कस्यचिद्रिपुम् ।
प्रकाशयेन्नापमानं न च निःस्नेहतां प्रभोः ॥
(A.H.Soo.2.27)

Never express that somebody is your foe or that you have enmity to someone. Do not disclose humiliation occurred to you and the lack of love of your master to you.

[Enmities are not to be expressed, even to your friends. Today's enemy may be tomorrow's friend in need. Expressing enmity will increase it and others may utilize the circumstance against you. Disgrace in secrecy need not be expressed that others may mock at you. Similarly if your boss is not favorable to you, do not publicize it. Coworkers may exploit the situation. Expressing unwanted truth is suicidal and will bring demerit.]

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Rain, rain go away



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It is a nursery rhyme and the wish of warding off the rain is childish. Is it that childish? As adults, we too sometimes desire to ward off the rain for our conveniences. But we also invite the rain and attempt to please the supernatural powers that grace us with the providence of rain that keeps life on the planet. Restoration (*jeevana*) is the first property of rain water that showers from the sky, as per Ashtaamga-hr̥daya (A.H.Soo.5).

It is a paradox. We may be fed up with whatever we relish and cherish. Anything we have waited for long and have always aspired for, will soon turn to be a bore or a nuisance and we will want to avoid

The double rainy seasons have contributed for the climate and seasons of Kerala considerably and have influenced a lot in the building up of a different culture, agriculture and vegetation in the state. That is why Kerala has a different seasonal rhythm. Thanks to the rains, Kerala is now God's own country and cradle of Ayurveda.

it. We soon request it to go away or try to frighten it off so that it will disappear on its own accord. If these measures do not find fruit, we call our saviors and pray that this unwholesome bitter cup should be removed from us.

In the burning sun of summer, when the sky and horizons are aflame, the blowing wind is blazing; our forefathers had rain dances to invite the rain. The Aryans had special fire sacrifices and offerings to please Lord Indra, the god of rains who with his sword of thunderbolt, slashes and flogs the rain clouds to shower upon us, so that the first sweet drops of rain can quench our thirst. We want our dry cracked fields to be moistened so that we can plough them to sow. We want our canals and rivulets to jiggle with the flowing water to nourish the seeds. We want our wells and ponds to be filled with water. We want our dams to be full, up to the brim, so that we can make the huge dynamos generate electricity for us throughout the year. So we want the rain. We want it badly.

But when the long waited rain has finally started drizzling, falling, is in downpour and raining cats and frogs and when the yard and road is flooded with water to wet our ankles, we start cursing the rain most vehemently and pray that this ruining chaotic rain may go away, earlier the better.

Why do we exhibit these double standards? Why do we love and hate the rain? Is it just a childish fancy or infatuation? The answer is simple. We are always trying to maintain our own happiness. When the rain is conducive to our happiness we love it. When it is against our happiness, we hate it. That is all. Remember, all nursery rhymes are written by adults and the aspiration of the little child who wants to ward off the rain is molded in the mature brain of an adult poet.

Rains come and go at times in all seasons all over the globe. In the continent, there can be summer rains, autumn rains, winter rains and spring rains. We too have such rains. But in the Indian subcontinent we have a special rainy season which is absent in other parts of the globe. They may have their own special rains which are not identical with ours. Our special rain is due to a very special annual wind blowing from the Indian Ocean to the subcontinent, called the South-Western Monsoon winds. This occurs from June to September. It usually manifests on the first day of June itself to coincide with the opening of the schools of Kerala, to soak the new dresses and books of school children, in spite of their new school bags and the new umbrellas. This naughty rainy season fades down by the end of September. There are two branches for this monsoon winds viz. the Arabian sea branch and the Bay of Bengal branch. In Kerala we have the Arabian sea branch. It first hits the Western Ghats of Kerala. Dipping Kerala in rains the wind moves forwards to the North and visits Konkan and Goa.

The other branch of monsoon winds, the Bay of Bengal branch, rises from the Bay of Bengal and travels to the Eastern Himalayas and is directed westwards traveling across the Indo-Gangetic plain at a rough rate of two weeks per state.

In Kerala there is the 'return of Monsoon' generating another rainy season. This is North-East monsoon or the Retreating monsoon. This is in the months of December to February. Many other states of India are not endowed with the luxury of two rainy seasons. Poet laureate Mr. Ulloor S. Parameswara Iyer has rightly commended that Kerala being the last child of the sea is lavished with more water akin to providing more breast milk to the last offspring.

The double rainy seasons have contributed for the climate and seasons of Kerala considerably and have influenced a lot in the building up of a different culture, agriculture and vegetation in the state. That is why Kerala has a different seasonal rhythm. Thanks to the rains. Kerala is now God's own country and cradle of Ayurveda.

All over the northern hemisphere of the globe, generally there is the four season weather system as noted below: -

- Winter – from Dec to Feb
- Spring – from Mar to May
- Summer – from Jun to Aug
- Autumn – from Sep to Nov

But in North India the seasonal structure varies and in treatises of Ayurveda written in the region of river Indus, we find six seasons by



including the rainy season and doubling the winter. Each season is only for two months against the three months of the continent.

- Late (second part of) winter – Mid Jan to mid Mar *(sisira)*
- Spring – Mid Mar to mid May *(vasanta)*
- Summer – Mid May to mid Jul *(greeshma)*
- Rainy season – Mid Jul to mid Sep *(varsha)*
- Autumn – Mid Sep to mid Nov *(sarat)*

Susruta-samhitaa we find the following description – "Here (in this chapter) there are six seasons: rainy season, autumn, winter, spring, summer and pre-rains. They are explained with two months each starting with *bhaadra-pada*. That is – *bhaadra-pada* and *aasvayuja* (form) the rains, *kaartika* and *maarga-seersha* the autumn, *pausha* and *maagha* the winter, *phaalguna* and *caitra* the spring, *vaisaakha* and *jyeshtha* the summer and *aashaadha* and *sraavana* the pre-rains." The relation with months and seasons are given in a different manner in this passage. Moreover there is only one winter (*hemanta*) in this list. Later winter is omitted. There are two rainy seasons to compensate

Seasons in the Indus region

Sl. no.	Month in Sanskrit	Approximately corresponding period	Season	Sanskrit
1	*Maaghah (tapah)*	Mid January to mid February	Later winter	*sisirah*
2	*Phaalgunah (tapasyah)*	Mid February to mid March		
3	*Caitrah (madhuh)*	Mid March to mid April	Spring	*vasantah*
4	*Vaisaakhah (maadhavah)*	Mid April to mid May		
5	*Jyeshthah (sucih)*	Mid May to mid June	Summer	*greeshmah*
6	*Aashaadhah (sukrah)*	Mid June to mid July		
7	*Sraavanah (nabhah)*	Mid July to mid August	Rainy season	*varshah*
8	*Bhaadrapadah (nabhasyah)*	Mid August to mid September		
9	*Aasvinah (ishah)*	Mid September to mid October	Autumn (Falls)	*sarat*
10	*Kaartikah (oorjah)*	Mid October to mid November		
11	*Maarga-seershah (Agrahaayana) (sahah)*	Mid November to mid December	Earlier winter	*hemantah*
12	*Paushah (sahasyah)*	Mid December to mid January		

- Early (first part of) winter - Mid Nov to mid Jan *(hemanta)*

Near the Gangetic plain the weather system is a bit different. In Chapter six of Sootra-sthaana of

Seasons in the Gangetic plain

Sl.no	Month in Sanskrit	Approximately corresponding period	Season	Sanskrit
1	*Bhaadrapadah (nabhasyah)*	Mid August to mid September	Rainy season	*varshah*
2	*Aasvinah (ishah)*	Mid September to mid October		
3	*Kaartikah (oorjah)*	Mid October to mid November	Autumn	*sarat*
4	*Maarga-seershah (Agrahaayana) (sahah)*	Mid November to mid December		
5	*Paushah (sahasyah)*	Mid December to mid January	Winter	*hemantah*
6	*Maaghah (tapah)*	Mid January to mid February		
7	*Phaalgunah (tapasyah)*	Mid February to mid March	Spring	*vasantah*
8	*Caitrah (madhuh)*	Mid March to mid April		
9	*Vaisaakhah (maadhavah)*	Mid April to mid May	Summer	*greeshmah*
10	*Jyeshthah (sucih)*	Mid May to mid June		
11	*Aashaadhah (sukrah)*	Mid June to mid July	Pre-rains	*praavrt*
12	*Sraavanah (nabhah)*	Mid July to mid August		







Why do we love and hate the rain? Is it just a childish fancy or infatuation? The answer is simple. We are always trying to maintain our own happiness. When the rain is conducive to our happiness we love it. When it is against our happiness, we hate it. That is all.



Vaata and pitta are natural friends. Hence they cooperate in operations. Hence in the rainy season diseases predominant in vaata are prone to develop and diseases due to pitta are in the green room, ready to act in the next season.

The following table compares the variants of seasons in North India.

Comparison of seasons in Indus and Gangetic plains

Season in Indus plain	Sl.no	Months	Season in Gangetic plain
Rainy season *varshah*	1	Mid August to mid September - *Bhaadrapadah (nabhasyah)*	Rainy season *varshah*
Autumn *sarat*	2	Mid September to mid October - *Aasvinah (ishah)*	
	3	Mid October to mid November - *Kaartikah (oorjah)*	Autumn *sarat*
Earlier winter *hemantah*	4	Mid November to mid December *Maarga-seershah (Agrahaayana) (sahah)*	
	5	Mid December to mid January - *Paushah (sahasyah)*	Winter *hemantah*
Later winter *sisirah*	6	Mid January to mid February - *Maaghah (tapah)*	
	7	Mid February to mid March - *Phaalgunah (tapasyah)*	Spring *vasantah*
Spring *vasantah*	8	Mid March to mid April - *Caitrah (madhuh)*	
	9	Mid April to mid May - *Vaisaakhah (maadhavah)*	Summer *greeshmah*
Summer *greeshmah*	10	Mid May to mid June - *Jyeshthah (sucih)*	
	11	Mid June to mid July - *Aashaadhah (sukrah)*	Pre-rains *Praavrt*
Rainy season *varshah*	12	Mid July to mid August - *Sraavanah (nabhah)*	
	1	Mid August to mid September *Bhaadrapadah (nabhasyah)*	

this omission – pre-rainy and rainy seasons.

The seasons of Kerala are more similar to that of the Gangetic plain but are not identical with it. For example in the Ganges plain, according to Susruta-samhitaa pre-rains start only by mid-June whereas it starts at June first itself, almost with clock work regularity in Kerala. This year (2012) it was a bit belated. In such years, monsoons are generally weak and draught is the usual outcome bringing in agricultural failure, economic depression, power cuts, reduction of production, price hikes, scarcity of even drinking water, episodes of epidemics, strikes and poverty.

Indian economy, still being an agrarian economy, is by and far influenced by the Monsoons. Failure of monsoons, including delay even for a few days will tamper Indian economy and life of people.

According to the seasonal cyclic variations in the stages of humors, in the rainy season pitta accumulates and vaata aggravates. Vaata and pitta are natural friends. Hence they cooperate in operations. Hence in the rainy season diseases predominant in vaata are prone to develop and diseases due to pitta are in the green room, ready to act in the next season. Hence it is our duty to see that the aggravated vaata and accumulated pitta are to be addressed.

Vaata is responsible for degenerative diseases and neurological diseases. Pitta is responsible for inflammatory diseases. If proper preventive measures are not taken, the chances of infectious diseases are very high in the rainy season. Water borne diseases are prevalent in this season though they raise the curtain in summer when water is scarce and the microbial concentration is very high due to the evaporation of surface sources of water. Old age is the period of vaata and diseases due to vaata. Since such diseases gain power in the rainy season, this season is the toughest time for the aged. In Kerala, death among the aged is more common in rainy season, especially at the fag end of it, the month of crab (*karkataka*). Crab has human life at its powerful claws.

In the rainy season everything is soaked and water logged. Vegetation is water logged and acidic in metabolic effect. Hence Kapha also is expected to accumulate. But Kapha gets the full quota of its supplies for accumulation only in winter and is waiting impatiently to be on tip toe like the relay racer waiting for the baton.

Therapy is highly linked with economy and employment. Monsoon gives vacation for the agriculture, agricultural laborers and supervisors. They are pushed back to their den by the heavy rains. This provides free time for them to pet their health problems.

Hence, in Kerala, it became a convention and practice to undergo special yearly protective treatments in the month of the crab. Those who have diseases also find it convenient to mend them during the monsoons so that the diseases can be kept well under control.

In general, Kerala special treatments like various oil applications and fomentations are done almost religiously during this period. But it is always better to call the assistance of a qualified doctor to select what is better for you. Procedures that involve heat may aggravate the already accumulated pitta. It may worsen the condition. Hence always go for an Ayurveda check up and undergo therapy only as per prescription. ■

Seasons change; Do we?



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Every day is a celebration of being alive. For this celebration, we should not only live longer but also need to stay healthy. So from the ancient time itself, the perspective of mankind changed from measures to find long life to, healthy long life. So does Ayurveda ,"the science of life".

Ayurveda is broadly divided into two. The curative care *(aatura-vr̲tta)*and the preventive and promotive care *(svastha-vr̲tta)*. Health or *svaasthyam̲* is multi dimensional. It refers to the physical, mental and even spiritual state of a living being. Being in a state of health means, the organism is in a perfectly orchestrated coexistence of all these factors. As far as humans are concerned, how we can attain a state of harmonious equilibrium is always a subject of deep discussion and can find a well evolved answer to this in Ayurveda.

Ayurveda preaches a well designed pattern for preservation of health. These include *dina-carya* for a sustainable healthy day time activities, *raatri-carya* for a sound and healthy sleep, *r̲tu-carya* for a smooth transition and acclimatization with the succeeding season. All these regimens are synchronized taking

into account the three main pillars of life viz food *(aahaaram)*, sleep *(nidraa)* and judicious execution of sexual life *(brahmacaryam)*.

India is bestowed with the monsoons, and there by having six well demarcated seasons with its own spell. The drastic change from a harsh summer to a lovely rainy season *(varsha rtu)*, is packed with many health issues, despite it offers a romantic and enchanting atmosphere. The mind may adapt quickly and nicely but the body and humors may not. Rainy season is discredited with having a lowest level of bio-fire *(agni)*, indicated by the digestive power. Bio-fire cannot be simply equated as digestive fire alone as it is the term that includes the energy process that are happening in the subtle cellular level also, and this in turn being the root cause of health. The human immunity *(bala)* also has a proportional relation with the efficiency of bio-fire. So in rainy season, the main focus must be on the preservation and promotion of the quality of bio-fire, by which we would be able to bring the vitiated humors to a state of equilibrium. This state of equilibrium of bio-fire, humors, tissues and wastes and the pleasant state of mind, faculties, soul *(aatma)* ,which comes as a result of the equilibrium state, is described as health *(svaasthya)* by Ayurveda. Having a sectorial analysis of these factors may enlighten the focus well.

Man's ability to adapt positively to the changes determines his very existence. In order to achieve this and stay healthy, we should be adaptive and the very question becomes most important. Seasons change; Do we? The answer must be, we should.

Daily Regimen

Daily regimen or dinacarya is the chord of regimen prescribed for the daily activities. Even though the core idea is same, it is necessary to customize it for each season.

There is a saying "A person who doesn't scatter the morning due will not comb grey hair". Ayurveda advocates waking up in the *Braahma muhoorta*. This period is of 48 minutes, starting 96 minutes before sunrise. After attending to calls of nature, one may brush the teeth. Specific toothpowders or paste may be used for this. Combination of herbs like the three acrids *(trikatu)*, the three aromatics *(trijaata)*, *jyotishmati* etc. with powder of rock salt may be used as a dentifrice. After brushing the teeth and washing the mouth one may proceed to rinsing or filling the mouth with sesame oil or plane warm water. Daily application of collyrium *(anjjana)* to the margin of lids with kohl *(antimony sulphide)* is suggested by classical treatises for keeping the eyes healthy. Medicated collyria like *Nalikeraanjana* (*Ilaneerkuzhambu* –Mal.) or *Kaacayapanam kuzhambu* may also be used instead of kohl. But strictly remember, collyrium must be followed by washing the eyes with sterile water to rinse off the remnants of collyrium. Collyrium is contraindicated when the sky is cloudy. Following the application of collyrium, nasal drops *(nasya)* are to be instilled. *Anutaila* is an ideal medicated oil for the purpose. Completing nasal drops, one shall move on to application of oil *(abhyamga)* with lukewarm oil. Application of oil is contraindicated for persons having diseases of kapha origin. Regular exercises may be done after the application of oil. After the exercises, rest for a while and then proceed to have a bath. Warm water is to be used for bathing, especially in rainy season. Herbal bath powders may be used to cleanse the body from dirt and oil. Classically powder of sirish leaves and powder of green gram etc. were used for the purpose instead of soap. After bathing and drying the body wear properly washed, well dried, fumigated and ironed clothes those are capable enough to withstand the cold and moisture. Use of footwear is a must and application of sandal and camphor paste over the body is also recommended. As this season presents the vitiation of all three humors, it is better not to strain every nerve.

Night Regimen

Early to bed and early to rise should be the motto of sleep habit. Day sleep and keeping awake at night must be avoided. It is advised to do fumigation inside the house with herbs having bactericidal and viricidal property *(bhootaghna)*. A simple and effective combination for this purpose is *"Aparajita dhoopa yoga"*.

Brahmacharya in marital life can be described as the judicial execution of sexual activities. Even though rainy season provides an ambience for romance and sex, Ayurveda proscribes over indulgence in sexual activity. It is advisable to have sex only once in 15 days.

Food

Food has a pivotal role in keeping one healthy. So it is very important to select and modify food in accordance with each season. In rainy season digestive power is less. Hence it is better to use food that is easily digestible, and which could help in promoting the digestive fire.

A herbal tea preparation made with coriander seeds, cumin seeds, fenugreek, dried ginger, cardamom & jaggery is an ideal drink in rainy season. Those who are using rice as staple food may add a bit of ghee to the

rice. It is advisable to use at least one year old rice and wheat than freshly cropped cereals, provided it is kept in good storage conditions. Meat soup may be made healthy by adding powders of long pepper, embilic myrobalan, barley, horse gram, dry ginger and pomegranate. Vegetable soups like green gram soups can also be used. As it is heavy to digest, curd is not recommended. But whey *(mastu)* may be used by adding the powder of long pepper, root of long pepper, cubeb, fire root, dry ginger*(panjca-kola)*. Drinking water must be boiled and cooled. For this purpose one can use a combination of six drugs viz. nut grass tuber, sandalwood, dry ginger, coleus, popat grass together called as *shaḍanga*. Heavy foods, cold foods and re-heated food must be avoided. Food which is salty and sour may be used. Juices of pomegranate, beetroot, carrot, etc with honey and lime may be used.

Importance of purification

Human body has a complicated organizational structure of different systems. As there is no ideal engine, there is no perfect human body. So, like engines, we also need periodic services and purificatory therapies. In Ayurveda, these purifying therapies are together known as panjca-karma, i.e. a collective name for five treatment modalities. So purification therapies are recommended in accordance with the age and strength of the person. Emesis, purgation and decoction enema are of prime importance. After purification, proper care as stipulated is to be provided. All the purification therapies and after care should be done strictly according to the prescription and supervision of a qualified Ayurvedic practitioner. Ayurvedic treatment is tailor cut and treatment without the help of a physician is not advisable.

Ayurveda A boon to mankind

Change is inevitable in this universe. Seasonal changes and climatic variations are so natural and are taking place round the year. Humans are cosmopolitan and thereby face different kind of seasonal variations in different regions. Anyhow, his ability to adapt positively to the changes determines his very existence. In order to achieve this and stay healthy, we should be adaptive and the very question becomes most important. Seasons change; Do we? The answer must be, we should. Being in good health is a social responsibility too. Only collective personal health care efforts could bring up a healthy society. Ayurveda, the trusted age old system, stood for this in the past and will continue to be a light-house of knowledge for mankind. Remember, only Mother Nature can give the ultimate solutions for our problems. ■



Aparaajitaa dhoopam

Fumigation has a very special status in Ayurveda. Many a times, they are like the SWAT team, brought in to execute a function not otherwise easily managed. Ayurveda is aware of microbes and the harms they can cause. Suśruta calls them *bhoota*. Several acquired diseases in Ayurveda are linked to *bhoota*. Dhoopana or fumigation is a proven anti-microbial process.

Damp, drenched and humid nature makes rainy season the time of celebration for the microbes. This coupled with the seasonal weakening of immunity in humans makes way to a lot of infectious diseases and epidemics. On keen observation, it becomes clear that all the regimens and diet mentioned in Ayurveda in this season are targeting to attain either anti-infectious state or increased immunity or both. Fumigation is one among such regimen.

There are several formulations mentioned for fumigation. One such formulation that can be used is *Aparaajitaa dhoopam* (= 'The invincible fumigation') .

It has the following ingredients:

1. Resin of Indian bdellium tree [*guggulu* (Sans.) *Commiphora mukul.*]
2. Lemon grass *[tṛṇam*(Sans.) *Cymbopogon citratus.*]
3. Sweet flag [*vacaa*(Sans.) *Acorus calamus*]
4. Sal tree [*sarja* (Sans.) *Shorea robusta.*]
5. Neem [*nimba* (Sans.) *Asadiracta indica.*]
6. Indian Madar [*arka*(Sans.) *Calotropis gigantea*]
7. Eagle wood [*agaru*(Sans.) *Aquilaria agallocha*]
8. Deodar [*devadaaru*(Sans.) *Cedrus deodara*]

The dried herbs are cut into small pieces and crushed together to form a coarse chunk. It is then put in the fumigation pot with red hot ambers and the fumes are made to spread in the house and stay for a while.

Aparaajitaa dhoopam is mentioned in Ashtaaṃga-hṛdaya Jvara Cikitsaa, 163rd sloka. Apart from its use as a general fumigant, it is also indicated for all types of fevers.

Relevance of Seasonal Purification Practices in Monsoon

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According to health scientists, diseases may be prevented or managed at four levels namely primordial, primary, secondary and tertiary.

Primary level of prevention aims at prevention of a disease when there are risk factors in a community (e.g. vaccination). Secondary prevention includes early diagnosis and treatment of a specific disease or illness. Tertiary prevention aims at disability limitation and rehabilitation.

Interestingly the first and the basic level of prevention – 'Primordial prevention'- has not been given much importance by scientists until the last quarter of 20th century. Primordial prevention aims at the prevention of all types of diseases even if there are no risk factors in a community. In other words it is 'the prevention of the emergence or development of risk factors in population groups in which they have not yet appeared'. The proliferation of lifestyle disorders (obesity, diabetes, dyslipidemia, hypertension etc) compelled the health activists to think of the importance of primordial level of prevention. Proudly we may say that Ayurveda is the only health science which has overseen the necessity of primordial prevention, centuries ago. So daily regimen *(dina-carya)* and seasonal regimen *(rtu-carya)* are the basic tools to achieve primordial prevention in the true sense.

Seasonal Purification Practices in Monsoon

Rationale

The toxins/ impurities that accumulate in the channels *(srotas)* in the course of time may lead to many a number of diseases which are longstanding *(cirakaari)* and complex *(tiryak-gata)* and are incurable by medicines *(bheshajadveshi roga)*. The toxins in turn may cause coating of channels, obstruction, reduction of bio-fire etc

and eventually turn fatal. The alarming prevalence of lifestyle diseases may also be studied under this context. Seasonal purification practices *(sodhana)* done as per scientific guidelines may help individuals to attain equipoise *(dhaatusaamya)* periodically.

History

Until the last quarter of the 20th century the socio-economic status of Kerala were centered in agricultural sector. Majority of the population were farmers or agro-related occupants who worked hard to meet the ends. *Karkataka* (Mid July-Mid August) is marked with heavy downpour day and night which restricted the people to stay home for at least a month. It was a period of added nursery to low income families. Also Mother Nature is blessed with sprouting of all types of vegetative life to welcome the coming *Cingam* (Season of festivals and splendor). Fresh and tender sprouts appear as signals of regeneration in all vegetations. Naturally physicians of Kerala have inferred that same regenerative physiological changes may also occur in human beings. So both the seasons and situation are favorable to observe palliative treatment for health care *(deha raksha)*. Also in rainy season, general stamina of individuals will be less. It is mentioned that stamina will be less in rainy season and in summer (A.Hr. Soo. 3.7).
So rejuvenation procedures may be resorted to.

Principles

An accumulated humor is to be expelled off in the cumulating and aggravating seasons *(rtu sandhi)*.

In winter kapha is accumulated due to the cold of the season. It will aggravate in spring. Hence it is to be eliminated from body in the beginning of spring (*caitram*- Mid March to Mid April).

Vaata accumulated in summer is to be eliminated in the beginning of rainy season (*sraavanam*- Mid July to Mid August).

Pitta accumulated in the rainy season is to be eliminated in the beginning of autumn (*kaartikam*- Mid October to Mid November).

Months of heavy rain, cold and heat are not suitable for purification therapy. So in a year we have to do Seasonal Purification Practices thrice.

Incidentally, the month of *Karkataka* is thus the time for elimination of vaata. For this, the ideal purification procedure is enema *(vasti)*.

After purification therapy, treatments that stabilizes and strengthens the body such as rejuvenation therapy may be carried out. This is the treatment protocol advocated in Ayurveda as a part of seasonal purification.

Application

Any purification procedure is to be preceded by a pre-purification procedure *(poorvakarma)* and followed by post purification procedures (pascaat karma). So after assessing the condition of the individual, the person has to undergo internal unction and sudation before performing enema. Since, the bio-fire is weak in rainy season, attempts for augmenting it should be executed. Diet should be light, but strengthening. In a way, as all the three humors are deranged in rainy season, enema is the ideal purification therapy as it will expel all the three vitiated humors.

Current scenario

Unfortunately people are neglecting the importance of purification therapy in relation with seasons and are fascinated in pre purification and post purification measures only. This tampers the logic of the whole treatment. Fortunately reputed treatment centers and dedicated physicians are still maintaining the scientific values of practicing *Karkataka cikitsaa*. ■

Monsoon Maladies and their Management

Fevers

- Mostly viral.
- Use drugs of bitter and acrid taste.
- E.g.: Tinospora, green chirata, dry ginger, nutgrass tuber, popot grass etc.
- Licorice has proven anti viral effect.
- Costus has anti bacterial property.
- The combination of Biogest and Histantin tablets has been found highly effective.

Running nose, asthma and cough (Respiratory problems)

- Gruel with dry ginger, black pepper, coriander, Yellow night shade, belleric myrobalan may be given
- Syrup of coriander and dry ginger is highly effective.

Skin Diseases

- Taking into consideration the humidity and coldness of the season, drug combinations which mitigates kapha and pitta (e.g.: decoction of *patolaadi* group) is found effective.
- *Peya* with neem, bitter snake gourd, three myrobalans is useful
- Purgation with *Avipatti* powder highly effective.

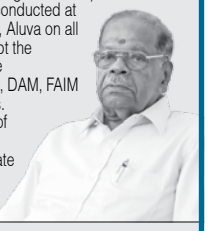
Neurological diseases

- Gruel with *sahacaraadi, ashtavarga, bhadradaarvyaadi* or *dasamoola* is useful along with other medicines.

Decoctions for fevers

SAASTRA-MATHANAM

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.



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

A set of five formulations of decoction are provided in the treatment of fever (*jvara cikitsaa*) of Ashtaamga-hrdaya (C. 1.48-50). Each formulation is narrated in a single step of the verse. These formulations are indicated in intermittent fevers (*vishama-jvara*), one for one type of intermittent fever i.e. *santata, satata, anyedyuh, triteeyaka* and *caturthaka*. It is very essential to differentiate these five conditions and these five decoctions, as each of the decoction works specifically on its respective indication only. When the physicians fail to arrive at an exact diagnosis, even after elaborate investigations and tests including the 'bone marrow study', certain fevers are labelled as Pyrexia of Unknown Origin (PUO). Symptomatically, PUOs resemble intermittent fever (*santataadi jvara*). So, all we have to do is analysis of the presenting symptoms, identifying the tissue (*dhaatu*) in which the fever is seated and selecting one decoction among the five formulations.

Though the 'constant fever' (*santata jvara*) is considered as an uneven fever (*vishama-jvara*), it is not evidently intermittent. This, along with the four types of intermittent fevers come under the purview of the trihumoral fevers (*sannipaata-jvara*). All these five fevers have a common feature. They are generated by the support of the tissue and time, even when the involved humor is of less quantity. The constant fever gets strength from the body fluid (*rasa-dhaatu*). Since the body fluid circulates all over the body, and gets in contact with all the tissues, urine and stools, all these factors contribute to the strength of fever and hence this type of fever is unopposed resulting in hyperthermia of the entire body.



The term *tulyadooshyaadi vardhitah* in this verse deserves a special attention as it gives a hint on the tissue in which the fever is seated. To exemplify, if a patient of kapha *prakrti* is reporting with *kaphaadhika sannipaata jvara*, in a period of kapha, the vitiation will be seated in the tissues that are kapha dependant. Such vitiations will not only be powerful but also unchallenged by the bodily and environmental factors.

The coda of this type of fevers can be of two types. One, the vitiated humors may cause tissue destruction (*dhaatu paaka*) like in enteric fever. This particular situation can be identified from the tenderness elicited around the umbilical region. The features of tissue destruction have been detailed in Bhaava-prakaasa. A fever ending up in tissue destruction eventually leads to death. If the fever culminates in digestion of wastes (*mala paaka*) the patient may survive.

The duration, according to Agnivesa, goes up to 7 days, 10 days and 12 days respectively in vaata, pitta and kapha predominant fever. This duration was double as per Haareeta and before the advent of Chloramphenicol, fever used to stay for over 22 days. The classic symptoms like coating of the tongue etc. were also clearly seen.

> We come across a lot of apparently new types of fevers namely Swine flu, Bird flu etc. By studying its features we can identify that there is pitta-kapha vitiation occurring as a common feature in many such fevers.

In constant fever (*santata jvara*) where the seat of fever is in the body fluid, the decoction made from kurchi seeds, leaves of bitter snake gourd and picrorhiza is to be used (A.H.C.1.48).

Blood (*rakta*) is the seat of fever in 'continuous



fever' (*satata jvara*). In this, the second decoction, made of bitter snake gourd, Indian sarasaparilla, nutgrass tuber, *paaṭhaa* root and picrorhiza is to be used (A.H. C. 1.48).

There is a reference in Madhu-kosa commentary about a sage named Khara-naada who has specifically mentioned that all trihumoral fevers except constant fever can be considered as uneven fever. (*jvaraa poorvaṃ mayoktaaye panjca santatakaadayaḥ; catvaaraḥ santatam hitva njeyaste vishamajvaraḥ*). Hence the remaining four decoctions indicated for satata, anyedyu, triteeyaka and caturthaka jvara can also be given for PUOs.

Juvenile Rheumatoid Arthritis (Still's disease) and its varieties also exhibit similarities to vaata *jvara*. Vaagbhata has described vaata *jvara* in much detail. On assessing these details, one can relate it to Rheumatic Fever. Vaagbhata has not mentioned many decoctions for this condition. Decoction of climbing nettle, tinospora, nutgrass tuber and dry ginger in equal quantities is very effective in it. Alternatively decoction of roots of long pepper, tinospora and dry ginger or decoction prepared from the lesser five roots may be used. If the patient is under steroid therapy it is to be weaned off gradually.

The choice is made after assessing the constitution (*prakṛti*) of the patient and predominance of humor in the condition. For example if the fever is associated with edema and if diuresis is required, the decoction with lesser five roots will serve the purpose better. The text has only given us some options. The choice is based on the physician's logic.

In Pneumonia, *Pathya-kaṭphalaadi* decoction (similar to *Pathya kustumburu* formulation in Sahasrayogam) mentioned in the context of kapha-vaata *jvara*, was given in the bygone days along with *Makaradhvaja, Gorocanaadi* pills etc. It can be given to children with respiratory difficulties in fever. Earlier, before the antibiotics gained popularity, physicians used to carry this decoction in small bottles. In it, lac (*laakshaa*) was mixed as a preservative.

The popular formulation, *Vyaaghryaadi kvaatha* indicated in the context of vaata-kapha *jvara*, has miraculous effect in allergies. Moreover, it is highly effective in stubborn cough. Using powder of long pepper as adjuvant in this decoction is a must.

Raasnaa-sunṭhyaadi kvaatha mentioned in the context of *sannipaata jvara*, has miraculous effects in conditions like rigidity of neck (*manyaa-stambha*) and is widely used in rheumatoid disease (*aamavaata*).

There is a cold infusion mentioned for the respiratory complications of trihumoral fevers in Ashtaamga-hṛdaya (Ci. 1.66). Mahuva flowers, raisins, thyme leaved gratiola, small wild date, vetiver, picrorhiza and three myrobalans are incorporated in this infusion. This is given in fever associated with cough, dyspnoea, ache in the flanks and in fevers with excess vitiation of vaata and kapha. This is also ideal for severe infections in association with fever.

Symptomatically, PUOs resemble intermittent fever (***santataadi jvara***). So, all we have to do is analysis of the presenting symptoms, identifying the tissue (***dhaatu***) in which the fever is seated and selecting one decoction among the five formulations.

Theoretically, purgation should not be induced in fever to relieve constipation. However, as a practical note, laxation with *Avipatti coorṇa* may be done. A decoction made of picrorhiza, raisins, thyme leaved gratiola and three myrobalans with jaggary as adjuvant is specifically indicated for this condition by Vaagbhaṭa (AH.C.1.69). This could be made into tablet form for easy administration.

The above mentioned are the main areas of jvara where decoction formulations are used in particular. Apart from these decoctions, *Gudoocyaadi kvaatha* is also beneficial in a variety of situations in fever especially in pitta-kapha conditions. Fever associated with diarrhea is benefitted by a combination of this decoction and *Daadimaashtaka coorna*. *Vettumaaran* pills may also be added with the decoction.

The popular formulation, ***Vyaaghryaadi kvaatha*** indicated in the context of vaata-kapha ***jvara***, has miraculous effect in allergies. Moreover, it is highly effective in stubborn cough. Using powder of long pepper as adjuvant in this decoction is a must.

After the treatment of ten days, ghee formulations may be given in fever. But if there is any uncertainty regarding the condition of the patient to initiate ghee formulations, the above mentioned decoctions added with a few drops of medicated ghee can be given as test doses. [Dr. K. Rajagopalan recommends *Indukaantam ghrta* with *Indukaantam kvaatha* for this need.]

There is also a decoction mentioned for relapsing fever (*punaraavartaka jvara*). That formulation, even though quoted in Arunodayam commentary of Ashtaamga-hrdaya, is originally from Caraka-samhitaa. ["I myself had once fallen victim to trihumoral fever. I developed Parotitis also, which is of poor prognosis. But there is an exception to this that ... I was unconscious for 21 days and was fed only on flowers of thumbe and cumin seeds in breast milk drop by drop. This was followed by application of a pad on scalp with cock (*kozhittalam* – Mal.). These kinds of treatments are being forgotten today. The procedure of giving flowers of thumbe and cumin seeds in breast milk as nasal drops is still used in loss of consciousness and the results are marvellous.

Decoctions that have black pepper in it are found to be very beneficial in viral fevers. Steam inhalation of water boiled with black pepper, betel leaves and jaggery is also effective. The patient may also use the boiled water remaining after steam inhalation, for drinking. Decoctions like *Pathya-katphalaadi, Gudoocyaadi*, and formulations like *Amrtaarishta, Sudarsanam coorna, Vettumaaran* pills and *Cukkum-tippalyaadi* pills are advisable. However, *Cukkum-tippalyaadi* pills should be given to children with care as it contains arsenic (*paashaana*). *Gopee-candanaadi* is preferred instead.

The question is, when we have specific formulations for predominance of each humor in each condition of disease, do we actually have to go round about with indirect formulations? But as our treatment construct is based on normalization of humors, these formulations should have such extensive action. This should be tried and tested.

Brahmee-draakshaadi kvaatha, though mentioned in the context of fever, it also has specific indication in neurological and even psychiatric conditions. It is a good remedy in fevers associated with raving (*pralaapa*) and is given in conditions like Autism too.

We come across a lot of apparently new types of fevers namely Swine flu, Bird flu etc. By studying its features we can identify that there is pitta-kapha vitiation occurring as a common feature. This combination of humors is theoretically impractical. Just like combination of turmeric and lime powder combining to give red coloured powder, when pitta and kapha combines, a third factor is formed. According to Tarka saastra, this is an example of *vikrti vishama samavaaya*. Managing these flues with treatment normalising pitta-kapha usually hits the target.

Draakshaadi kvaatha, even though indicated in jaundice (*kaamalaa*), should not be given in obstructive jaundice (*saakhaasrita kaamalaa*) because obstructive jaundice requires sharp medicines for management.

Draakshaadi kvaatha, in combination with *Kalyaanaka kvaatha* in equal proportion, maybe also added with *Maanasamitra vataka*, give wonderful results in insomnia, maniacal conditions etc.

By this we have discussed the major decoction formulations in jvara. ■

"The physician need not shrink (hesitate to treat) just because he is unable to identify a disease by its name.

Surely, all conditions of diseases are not identified with specific names".

- A.Hr. Soo. 12.63



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Yoga and Immunity

Yoga is a science as well as a spiritual path. Unlike in the modern science, in the ancient *'Saastra'* like Yoga or Ayurveda, material science and spirituality go together without any contradiction. Even though modern science is developed a lot on the material side, its knowledge about other levels of human existence like *praaṇa* is limited.

Praaṇa is the subtle vital force behind the activities of body and mind. *Praaṇa* is a subtle energy which can't be perceived with normal human senses. The immune system, which normally modern medicine means, is on the physical level. The immune system is defined as a system of biological structures and processes within an organism that protects against disease. It includes the detection of an intruder or a disease within the organism and fights against it and overpowers it. It is a sophisticated defense mechanism. Like the deficiency to detect an intruder, considering own cells as an intruder is also a defect of the immune system. In Yoga, the solution is not increasing or decreasing something, but balancing it. Therefore, the practices in yoga bring the immune system down to normal in case of hyper-immunity and bring up to normal in case of immune deficiency. Yoga harmonizes the immune system.



Model: Sugandhi Shibu | Photo: Anil Mizhi

The immune system needs memory to recognise the intruder and its own cells and has to be directed to the affected area where it needs support and repair. *Praaṇa* is behind these actions. Anything that happens to this memory or the ability to direct the immune system towards affected area can be called an immune disorder. Immune system protects you from an invasion by external intruders like bacteria, virus, poisons etc. The moment *praaṇa* leaves the body, means once you die; the intruders enter into the body and start decomposing it. If the immune system was purely on physical level, we would be able to correct it with medication. But the real immune system is in *praaṇamaya koṣa*; the vital energy sheath. The cause of immune disorders in modern time is not due to lack of nutrition but because of stress. So we have to work both on mind and *praaṇa*.

Stress plays an important role in disturbing the immune system. The agitation in the mind affects the energy sheath immediately. Stress is the culprit of most of the modern diseases which we classify as psychosomatic ailments. For maintaining a healthy mind, Ayurveda *aacaaryaas* recommend yoga in *svastavṛttam*. Different tools in yoga help to balance the immune system.

Yogic postures-*Aasana*

By practising *aasana*, one attains steadiness of body and mind,

freedom from disease and lightness of the limbs. *Aasana* means a state of being in which one remains physically and mentally steady, calm, quiet and comfortable. Unlike violent modern exercises, yoga postures help to harmonise body and mind. *Aasana* are specific body positions which open the energy channels and psychic centres. *Aasana* helps to free the blocked *praaṇa* in the joints. Lack of enough exercises weakens the immune system. *Asana* gives right exercise to our body. Through stretching and gentle pressure to different body parts and muscles, yogic postures help to stimulate and activate cells, blood circulatory system and nervous system. This helps to improve the immune system.



Yogic breathing-*Praaṇayaama*

Praaṇayaama is a science in which we deal with *praaṇa* and mind through breath. Breath is the physical expression of *praaṇa*. Once *praaṇa* leaves the body the breath stops. Any imbalance in *praaṇa* will affect the breath. One should have abdominal breathing by nature. Many people in modern time have intercostal breathing mainly by two reasons: stress or anxiety over time or intense sport activity. Correction of this wrong breathing is very important in *praaṇayaama*. In *vibhaaga praaṇayaama*, we teach abdominal breathing *(aadya ṣvasanam)*, intercostal breathing *(madhyama ṣvasanam)*, clavicular breathing *(adhama ṣvasanam)* and complete breathing *(poorṇa ṣvasanam)*. This helps to correct the breath as well as to improve the lung capacity which is important for a healthy immune system.

Naaḍee-ṣodhana is the *praaṇayaama* which helps to purify the nervous system. Our left side of the brain is analytical and right side is philosophical. The imbalance between left and right brain causes stress when you are forced by a situation to use the weak side of the brain. This imbalance is nothing but the imbalance between *iḍa* and *pingaḷa naḍee*. This imbalance in the *naḍee* can be recognized in the breath as imbalance between the left and right nostrils. By regulating the breath through alternative nostrils, *naaḍee-ṣodhana* balances the *iḍa* and *pingaḷa naḍee*. In that state, *praaṇa* starts to flow through *sushumnaa naḍee* and one becomes realistic and experiences peace. Advanced *praaṇayaama* techniques has to be practiced as per the instruction of the therapist.

Mantra



A mantra is divinity enclosed within the sound-structure. Any sound we produce can create vibration (resonance) in our body and in *praaṇa* level in the areas where there is the same frequency. The sounds which produce positive effect are called mantras.

Mantra can create vibration in our physical level. The vibration created by mantra can increase the blood circulation, activate cells, soothes the nervous system and tones the organs in the food sheath *(annamaya koṣa)*

Every sound can have its own corresponding nerve *(naḍee)* with the same frequency. Vibrations of the sound in mantra are very important and they can stimulate the cycle *(cakra)* on *praaṇa* level. Mantra produces resonance in different *naḍee* and *cakra* according to its frequency. The resonance of mantra removes blockages of *praaṇa* and activates *cakra* in the *naḍee*. Mantra can influence the immune system in the energy sheath. Mantras can energize *praaṇa*.

New scientific branches in modern science have emerged such as psycho-linguistic effect, neuro-linguistic effect or study of the influence of mantras on human system. Mantra can influence the beta, alpha, theta and delta waves in the brain. Modern equipments measured the brain waves during vedic recitation and found that the brain waves came down from 13 cps (beta) to 4.8 cps (delta); from wakeful state to meditative state.

Mantra can influence the nervous system and generate nerve impulses which reach to the brain and influence the hormone production positively. The recitation of mantra brings our body and mind towards a spiritual level. The attention on correct pronunciation of mantra improves concentration resulting in calmness, peace and strength of the mind. The *'bhaava'* (chanting with meaning and devotion) again brings concentration and calms down the mind. One can use any mantra according to his belief. The spiritual science says that the frequency of each living being is same as the frequency of the universe. Many religions also believe that the sound is the first creation in the universe. The scientific study says the frequency of the right pronunciation of *'om'* is same as the frequency of function of the body. So even a non-believer can use the sound *'om'* with scientific reason. Reciting mantra is a simple form of meditation for a stressed or ill person.

Meditation-*Dhyaanam*

Dhyaanam affects the mind directly. It helps to reduce stress.

Meditation restores order in a muddled mind. It reduces e motional imbalances and the uncontrolled flow of emotions. Meditation helps to lose the physical and mental consciousness. This helps to soothe *praaṇa* and calm down the nervous system.



An ill person with stressed mind can't do advanced meditation. So we use some simple meditation techniques to calm down the mind. Here, relaxation of mind is meditation. Singing or listening *sattva* music, reciting or listening mantras, *ṣvasana dhyaanaṃ* (meditation through observing and feeling own breath), *naada-anu-santaana* (reciting ´a`kāra, ´u`kāra and ´m' kāra sounds), *ṣabda dhyaanaṃ* (meditation on the sounds around us) are all simple forms of meditation which one can follow during illness or stressed mind. By calming the mind, meditation balances *praaṇa* and the immune system.

Six procedures *(Shaṭ-kriya)*

Kriya is very important in yoga therapy. *Kriya* mainly influences the energy sheath. Kriya offers the opportunity to cleanse and free the body from poisons and residues. By the elimination of impurities, the kriyas *(mala ṣuddhi)* bring down the bodily activity to a minimum level which facilitates the proper functions of the body. *Kriya* cleans our entire internal systems, breaks psychological barriers, shatters the forces of *tamas* and brings balance in the three basic principles *(vaata, pitta* and *kapha)* that, according to Ayurveda, keeps us healthy.

Haṭha-yoga pradeepika states that one who is of a flabby and of phlegmatic constitution should first practice the six procedures. Others should not do them as they do not have these defects, the three humors being equal in them.

The nervous system is positively influenced and the whole immune system is being strengthened. It affects a lot in pranic level. The procedures purify the *naḍee* and remove the blockages of *praaṇa* in the *naḍee*, which directly influence the immune system and nervous system. It activates and removes the blockages in cycles *(cakra)*. It helps to master on the *panjca-praaṇa*.

The imbalance in different *praaṇa* causes diseases. The six procedures can influence different *praaṇa*. Nasal procedure *(Neti kriya)*, forced speedy respiration *(kapaalabhaati)* and emesis *(vamana-dhouti)* influence the *udaana praaṇa*. *Udaana praaṇa* influence the sense organs and the senses. Emesis, Cloth-cleansing *(vastra-dhouti)* and abdominal pressure exercises *(nouli)* influence the *samaana praaṇa* which responsible for digestive activities. Enema *(vasti)* and Washing the gut *(sankha-prakshaalaṇa)* influence the *apaana praaṇa*. Diseases like menstrual disorders and irritable bowel syndrome etc. can be dealt with these procedures. Procedures do not utilize drugs. Instead, they utilize the body and mind to make their corrections by influencing the nervous system and *praaṇa*.

Procedures also work on mental level. They work against inert and ignorant nature *(taamasic)* nature, and help depressed people. Procedures create light weightiness to the mind and make a positive mind which helps in psychological problems like stress, tension, anxiety, depression etc. Procedures has to be practiced under the supervision of an experienced practitioner.

Yoga for Immunity

Stretching & Breathing Practices

Soorya Namaskaara

Aasanaa

- *Parivṛta trikoṇaasana*
- *Yoga Mudra*
- *Uṣṭraasana*
- *Ardha Matsyendraasana*
- *Bhujangaasana*
- *Ṣalabhaasana*
- *Ṣavaasana*
- *Pavanamuktaasana*
- *Jaṭhara parivṛtaasana*
- *Gomukhaasana*
- *Sarvaangaasana*
- *Matsyaasana/ Supta vajraasana*

Praaṇaayaama

- *Kapaala bhaati*
- *Nadee suddhi praaṇaayaama*
- *Bastrika*

Omkaara japa

Meditation

Special techniques

There are many special techniques in yoga which deal with the immune system and *praaṇa*. Channelizing *praaṇa* is one among them. In this practice, after relaxing the body and mind through a relaxation technique, one energises his *praaṇa* by using the will. It is very effective in case of autoimmune diseases like multiple sclerosis, muscular dystrophy, cancer, rheumatoid arthritis etc. This can be done in lying position and doesn't require any movement. So it is very useful even in the advanced stage of such ailments. This is very effective while one goes through chemotherapy, or strong steroid intake in case of cancer or









Model: Rena Maria | Photos: Anil Mizhi

multiple sclerosis. There are cases where it was possible to stop the steroid medication in multiple sclerosis after 6 months of yoga therapy and *praana* channelizing.

Yoga and Yoga therapy is very useful in improving the quality of the immune system generally as well as in diseases. Prevention is more important than cure in Ayurveda. ■



COOK FOR YOUR LIFE!

More and more households, especially urban are increasingly giving their kitchen a rest. In advanced economies, many homes cook only less than half of their daily meal requirements. Reasons for this are many and include lack of skills and confidence, busy lifestyle, little access to basic food commodities, cooking facilities and the availability of commercial alternatives. But a press release by Cambridge University on 15th June 2012 regarding a research outcome is a strong observation ushering us to the good old days of cooking our own meals.

A study was conducted by Taiwanese and Australian researchers on the cooking practices of a group of Taiwanese people. Those found to be cooking the most (and living the longest) were unmarried women who lived and ate alone, had not been highly educated, were non-drinkers and non-smokers, got around by public transport, walking and cycling, and shopped more than once a week. Along with cooking more frequently, these women also reported enjoying a better, more nutritious diet than others in the study, with diets high in fiber, vitamin C and low in cholesterol.

Women who cooked for a spouse or other family members also lived longer. Men were more likely never to cook or to cook infrequently. They were also more likely to die at a younger age. Quoting the authors (Rosalind Chia-Yu Chen, Meei-Shyuan Lee, Yu-Hung Chang and Mark L Wahlqvist of Public Health Nutrition) , "One reason why women may benefit most from cooking later in life is that they are cooking for someone else, as they have probably always done: that is, they are cooking with greater purpose than simply preparing meals for themselves".

As the study's lead author, Prof Mark Wahlqvist, who works in international health and nutrition, observed, "It has become clear that cooking is a healthy behavior. It deserves a place in life-long education, public health policy, urban planning and household economics. The pathways to health that food provides are not limited to its nutrients or components, but extend to each step in the food chain, from its production, to purchase, preparation and eating, especially with others".



Application of the 'Seven Considerations' *(sapta-vidha kalpanaa)*

For proper understanding of the treatises of Ayurveda, apart from the 'logics of treatises' (***tantra-yukti***), there are certain 'considerations' termed as ***'kalpanaa'.*** This is a poetical means of rendering facts. These considerations are necessary to understand some complicated and difficult text easily. If the reader is unaware of these considerations there are chances of misunderstanding the text.



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Introduction

The article deals with the application of the 'Seven Considerations' (*sapta-vidha-kalpanaa*) into the chapter rasa-vimaaneeya of vimaana-sthaana (the part on measurements) of Caraka-samhitaa.

For proper understanding of the treatises of Ayurveda, apart from the 'logics of treatises' (*tantra-yukti*), there are certain 'considerations' termed as *'kalpanaa'*. Explanation of these considerations is not met with in the main classical treatises of Ayurveda. But Arunadatta, the renowned commentator of Ashtaamga-hrdaya has described seven considerations (*sapta-vidha-kalpanaa*) after his description of the logics of treatises, along with the flaws of treatises (*tantra-dosha*) etc.



Kerala Ayurveda Vaidyam

The word *kalpanaa* in Sanskrit means fixing, settlement, decorating, performing, effecting, invention, imagination etc. Here the term is more related to imagination. Things or substances are usually imagined or considered to be something else for better understanding. This is a poetical means of rendering facts. These considerations are necessary to understand some complicated and difficult text easily. If the reader is unaware of these considerations there are chances of misunderstanding the text.

The seven considerations

The seven considerations (*sapta-vidha-kalpanaa*) enumerated and explained by Aruna-datta are: -

- Consideration of the important *(pradhaanasya kalpanaa)*
- Consideration by the important *(pradhaanena kalpanaa)*
- Consideration as property *(guna kalpanaa)*
- Consideration of a small portion *(lesa kalpanaa)*
- Consideration of science *(vidyaa kalpanaa)*
- Consideration as food *(bhakshya kalpanaa)*
- Consideration of injunction *(aajnjaa kalpanaa)*

Explanations and Applications

The natures of these considerations are explained and they are applied in the chapter rasa-vimaaneeya of the vimaana-sthaana (part on measurements) of Caraka-samhitaa below.

The first two considerations are regarding importance and hence clubbed together as the considering the important *(pradhaana kalpanaa)*.

1 Consideration of the important *(pradhaanasya kalpanaa)*

The word pradhaana indicates main, major, foremost, key and important. When a drug or substance is mentioned specially for a procedure or disease, then it is considered as important or superior for that particular procedure or disease. For example, ghee *(ghrta)* is superior for unction *(snehana)* and milk *(ksheera)* is superior for restoration *(jeevana)*. Ghee is considered most important among those that provide unction and milk is the most important restorative. Note that there are many other substances that generate unction such as oil and substances like water and rice that are restoratives. But ghee and milk are considered most important among drugs that cause unction and restoration.

The measure of humors and drugs *(dosha-bheshaja-maana)* has consideration of the important in the part on measures (vimaana-sthaana).

2 Consideration by the important *(pradhaanena kalpanaa)*

The group of dairy products are termed as 'milk group' *(ksheera-varga)* because milk is the most important dairy product. The group is known by the most important member. The group also contains products like curd *(dadhi)*, buttermilk *(takra)*, whey *(mastu)*, butter *(navaneeta)*, ghee *(ghrta)* etc. Yet the group is known by its most important member.

The chapter 'rasa-vimaaneeya' is named after taste *(rasa)* because of the importance of taste, though

drugs *(dravya)*, humors *(dosha)*, and effects of various diseases are also mentioned in the same chapter.

3 Consideration as property *(guṇa-kalpanaa)*

Sometimes something which is not a property, attribute or quality is considered as a property in texts. This is termed consideration as property. For example, there are four quadrants for treatment *(catushpaada)* and each quadrant has four desirable qualities *(caturguna)*. On examining the prescribed qualities we find that none of them are enumerated as quality or property in Ayurveda. They neither belong to the twenty properties mentioned as *gurvaadi* nor 41 properties mentioned by Caraka-saṃhitaa. Hence they are really not properties according to Ayurveda. Yet they are considered as properties. Hence, something which is not a property is imagined as a property.

In the context of similarities and dissimilarities of tastes and humors, it is mentioned that each humor is generated by three specific tastes. This has been explained on the basis of similar and dissimilar properties. Hence it could be accepted as consideration of property.



4 Consideration of a small portion *(leṣa kalpanaa)*

'Leṣa' means a small portion or lesser portion. Whenever there is a brief explanation or insufficient explanation in a classical treatise, one should deduce elaborate



explanation with logic, intelligence and experience, depending upon the situation. Caraka-saṃhitaa mentions the examination of the constitution *(prakṛti-pareekshaa)* as one among the ten fold examinations *(daṣa-vidha-pareekshaa)* and explains the constitution *(prakṛti)* in various contexts. One who wants to get detailed knowledge about the constitution has to study different contexts in which it is mentioned.

Instructions about the special routes of norms of diet *(aahaara-vidhi-viṣesha-aayatanaani)* and norms of diet *(vidhi-vidhaana)* are met with in the chapter rasa-vimaaneeya. But sufficient explanation regarding diet *(aahaara)* is not provided in the context. Explanations of diet and food mentioned in other contexts are such as four types of dietary articles *(aahaara-catushka)*, are to be learned from such other contexts to understand appropriately about food.

5 Consideration of science *(vidyaa kalpanaa)*

Application and consideration of the subjects pertaining to other sciences may be required for understanding certain topics at hand in our science. Such application is called Consideration of science *(vidyaa kalpanaa)*. The direction to revere gods *(deva)*, cows *(go)* and the learned *(vipra)* is seen in the context of good conducts in Ayurveda. This is in the light of moral science that such directions are given in Ayurveda as part of preventive medicine.

The three types of food viz. saatvika diet, raajasa diet and taamasa diet mentioned in Bhagavad-geetaa are adopted in Ayurvedic dietetics as scientific material.

6 Consideration as food *(bhakshya kalpanaa)*

Sometimes non-edible substances are referred to as edibles in treatises. For example, Ayurveda is considered as nectar (amrta). Nectar is a mythologically edible substance whereas Ayurveda is not. Such consideration of non-edible substance as edible is termed consideration as food (bhashya-kalpanaa).

Under the context of special routes for dietary norms, it is mentioned to follow the eight rules strictly so that they will help like nectar in the maintenance of health. Here, the non-edible 'norms' are referred to as the edible nectar.

7 Consideration of injunction *(aajnjaa kalpanaa)*

In certain occasions the authoritative instructions of the treatises are to be followed compulsorily without questioning them. The norm that we should not cut the grass with your nails is an injunction. The reason for this not mentioned. Yet we have to obey it.

In rasa-vimaana also there is an injunction that we should not use three things in excess viz. long pepper *(pippalee)*, alkali *(kshaara)* and salt *(lavaṇa)*. The reason is not stated here.

Conclusion

Considerations are the principles like logics of treatises (tantra-yuti) used for better understanding and proper interpretation of treatises for clear, doubtless and appropriate knowledge of different words and phrases at various contexts. They guide the reader and provide cognizance about the subject.

Considerations act like tools to empathize the science.

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Growing Nutraceuticals

Andhranews.net: June 12, 2012 - Mumbai, Maharashtra, India

New analysis from Frost & Sullivan:

The Indian Nutraceutical market, finds that the market earned revenues of $1480 Million in 2011 and could grow to $2731 Million in 2016 at a CAGR of 13.0 percent.

Functional foods will be the quickest growing category until 2015 followed by Dietary Supplements. However, dietary supplements, specifically herbal, will form the greatest opportunity areas for nutraceutical manufacturers, driven by growing demand from an evolving consumer base.

The Global Nutraceutical market in 2011 was estimated to be $149.5 Billion, with US, Europe and Japan being the largest regional markets, accounting for nearly 93 percent of the global nutraceutical demand. These markets are nearing maturity, with exceedingly high per capita spends on nutraceutical products (Japan has a per capita spend of $51/person/year, while US and Europe have $40 and $35 each. The global average is only $21/person/year.) This compels nutraceutical manufacturers to look at developing countries such as India and China, which have considerably lower per capita spends on these products, as key growth regions. Other factors that support the growth of nutraceuticals in India are:

-- Between 1998 and 2005, India's overweight rates increased by 20 percent. The national family health survey has found 13 percent of women and 9 percent of men in the 15-49 age groups to be overweight or obese.

-- India has become the diabetic capital of the world with 55 million diabetics in 2010.

-- Of all deaths in the last decade, 40 percent have been Cardiovascular related. The number is expected to cross the 50 percent mark by 2020.

The latest trend for nutraceutical manufacturers is understanding cultural requirements and focusing on specific product formats. For instance omega-3 a traditionally non-vegetarian product, has been developed with vegetarian variants, thereby allowing it to gain traction with the large Indian vegetarian population.

With increasing sophistication among nutraceuticals, consumer demand for products with specific health benefits has been on the rise. Nutraceutical products have now been cordoned into various segments based on the health benefits. These sectors such as heart health, eye health allow manufacturers to position themselves better.

SOLICITED

kerala ayurveda vaidyam

Those who wish to publish their scientific articles in Kerala Ayurveda Vaidyam may please mail them to the following e-mail ID as an attachment in MS Word, using Times New Roman or Arial font. A signed hard copy also should be send to the Executive Editor. Any picture to go with the article should be windows compatible. Please include a PP size photograph of the author (JPEG format).



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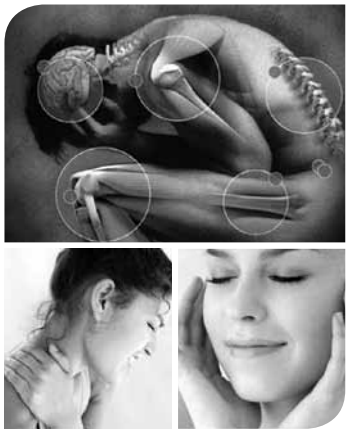
- **Ideal substitute to Gulguluthikthaka ghritham.**

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Padmasree Dr. Lalji Singh, Vice Chancellor BHU, inaugurating the Kerala Ayurveda Clinic.



Mr. Ramesh Vangal, Chariman, Kerala Ayurveda Limited, delivering the presidential address.

Banaras Hindu University is adorned with new Kerala Ayurveda Clinic



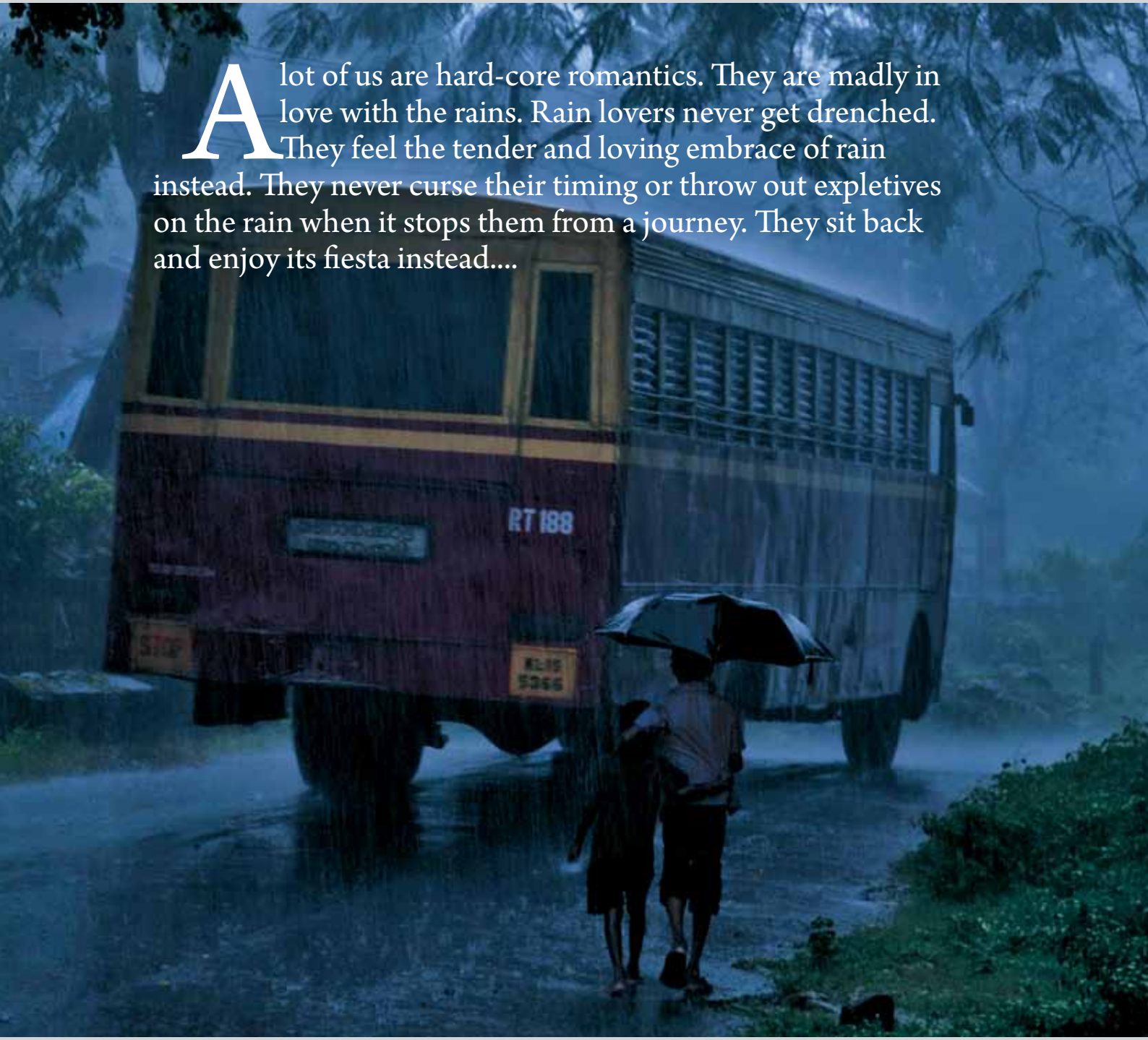
Banaras Hindu University, one of World's largest residential universities is now host to a state of the art treatment center by Kerala Ayurveda Limited. Kerala Ayurveda Treatment Centre is located in the Indian Medicine Wing of Institute of Medical Sciences at the Varanasi campus. The center is a fruit of the collaboration between the two monumental institutes BHU & KAL under the Public-Private Partnership (PPP). Apart from providing pristine Kerala therapies, KAL is also mission bound with the Institute of Medical Sciences- BHU, in exploring the ayurvedic vistas in geriatric care, cancer, anemia, metabolic diseases and epidemic prevention.

This venture is also intended to identify the best ayurvedic clinical approaches in North Indian and Kerala schools of thought and also to validate the fundamental principles and practices of Ayurveda with respect to the modern medical system.

The Kerala Ayurveda BHU center was inaugurated by the Vice Chancellor of BHU Padamsree Dr. Lalji Singh on 1st July 2012.

The occasion was graced by the Director Prof. T.M Mahapatra, and Medical Superintendent Prof. U. S. Diwedi of Institute of Medical Sciences BHU. ■

Rainy day CHORES



A lot of us are hard-core romantics. They are madly in love with the rains. Rain lovers never get drenched. They feel the tender and loving embrace of rain instead. They never curse their timing or throw out expletives on the rain when it stops them from a journey. They sit back and enjoy its fiesta instead....

....Rain lover or not, you have to be prepared for the rains, not merely by accessorizing up with raincoats and waterproof make-ups but more with readying your bodily strength and immunity. This will ensure you a beautiful and fun filled rainy season in contrast to a menacing period of flu, aches and diarrhea.

All the regimens in rainy season target mitigation of the three humors and at the same time strives hard to exalt the bio-fire which gets dangerously weakened in this season.



Here are some regimens to be followed in rainy season *(varsha ṛtu)*:

- Cleansing the body is a prerequisite. Panjca-karma procedures like *vamana* and *virecana* are done for this purpose.
- Once cleansed, decoction enema *(aasthaapana vasti)* is administered. *Vasti* is the *ṣodhana* of choice for vaata increase.
- Meals are to be prepared with aged cereals as new cereals are heavy for digestion.
- The advised non-vegetarian foods are either meat soups processed with spices or light and easily digestible meats like those of animals living in arid regions.
- Even though it is raining outside and the chances of dehydration are low, the texts advice a series of recipes for drinks to keep one energetic and to keep the bio-fire kindled. They are:
  - Soups made from peas or pulses like green-gram soup.
  - Aged brewed alcohol and *arishṭa* preparations.
  - Whey *(mastu)* mixed with sochal salt *(sauvarcala lavaṇa)* or *panjca-kola* powder.
- Drinking water, especially those obtained from natural sources (rain water or well water), should not only be boiled but also reduced as if in a decoction before drinking. This is to ensure diligent decontamination.
- In these days of heavy down pour, the foods taken should have the following qualities:
  - An evident flavor of sour and salty tastes.
  - Even though it should be unctuous, the food should have such a consistency that it can be made into a bolus easily i.e. it should neither be too watery nor too dry.
  - It is indicated to add honey with the foods.
  - The overall nature of all foods taken in this season should be light and digestive.
- Special care should be taken to cover your feet and all while going out. Wear protective gears like gloves and water resistant caps if necessary. Use an umbrella even if it is only a drizzle.
- There are chances of foul odor emitting from clothes and body due to the dampness in the air. Use herbal fragrances and deodorizers like sandal or vetiver to check this.
- The clothes that are washed and cleaned should also be fumigated before wearing or storing. This can act as a drying, deodorizing and antimicrobial process.
- Make arrangements, if necessary, at the residence such that the inhabitants are not exposed to cold, moisture or drizzle.

The following are contraindicated in rainy season:

- Usage of river water as it is most contaminated in this particular season.
- Pop-rice powder mixed in water *(mandha)*.
- Siesta
- Excessive physical exertions.
- Exposure to sunlight. ■



New Kerala Ayurveda Clinics

Kerala Ayurveda with a successful track record of six decades is planning to start over 50 clinics around the nation. This venture is a part of several initiatives of KAL to extend its services and support to a larger community. All classical and proprietary products of KAL are made available through these clinics. The clinics are managed by exclusively trained doctors with impeccable academic and clinical expertise.

Recently instated KAL Clinics in Kerala





KAL Clinic- Ayyappankavu, Chittoor Road, Ernakulam
Physician & Manager: Dr. Remya M.G.




KAL Clinic- Perumbavoor, Madaparambil Arcade, Oushadhi Junction.
Physician & Manager: Dr. Vani Balakrishnan.





KAL Clinic-Koothattukulam, Opp. Govt. Hospital, M.C. Road.
Physician & Manager: Dr. Aneesh Manoharan

Doctors' Meet







The Annual KAL doctors' meet of Kerala sector was held on 30th May, 2012 at Asset summit Suites, Kalamassery, Kerala.

Scientific sessions were conducted by Dr. Sadath D.R on the subject: "Low Back Ache- Diagnosis and Treatment" and by Dr. Sreeraj I. P. on "Management of Fractures and Dislocations". A demonstration on "Physiotherapy Modalities" was presented by Healing Hands Center for Rehab, Palarivattom. The previous financial year was reviewed and strategies for the financial year 2012-2013 were crafted. The meet was concluded after a group discussion.

Phytochemical and Pharmaceutical standardization & Anti-arthritic and anti-inflammatory activity of the polyherbal formulation – Myaxyl capsule

This presentation 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 from 25th to 27th November, 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.

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Aim

To standardize the polyherbal formulation- Myaxyl capsule, by pharmaceutical and phytochemical parameters and to evaluate its anti-arthritic and anti-inflammatory activity.

Introduction

Myaxyl capsule[1] is a polyherbal formulation with four ingredients – *Boswellia serrata, Curcuma longa, Piper nigrum* & *Zingiber officinale*. It has good analgesic and anti-inflammatory action and is safe in patients with gastric intolerance.

Materials & Methods

Phytochemical & Pharmaceutical parameters

Standardization of Myaxyl capsule was carried out with respect to phytochemical and pharmaceutical parameters mentioned in Indian Pharmacopoeia[2] & Ayurvedic Pharmacopoeia of India[3]. Phytochemical standardization includes qualitative estimation by TLC and quantitative estimation of active ingredients.

In-vitro anti-arthritic activity of Myaxyl capsule

In vitro anti-arthritic activity was evaluated using UV-Visible Spectrophotometer[6] by inhibition of protein denaturation using Bovine serum albumin. Diclofenac sodium was taken as the standard and absorbance was measured at 416 nm.

Method

1. Test solution (0.5ml) consists of 0.45ml of Bovine serum albumin (5% w/v aqueous solution) and 0.05ml of Myaxyl Capsule powder (250mcg/ml).

2. Test control solution (0.5ml) consists of 0.45ml of bovine serum albumin (5% w/v aqueous solution) and 0.05ml of distilled water.

3. Product control solution (0.5ml) consists of 0.45ml of distilled water and 0.05 ml of Myaxyl Capsule powder (250mcg/ml).

4. Standard solution (0.5ml) consists of 0.45ml of Bovine serum albumin (5% w/v aqueous solution) and 0.05ml 0f Diclofenac sodium (250mcg/ml).

All the above solutions were adjusted to pH 6.3 using 1N HCl. The samples were incubated at 37°C for 20 minutes and the temperature

was increased to keep the samples at 70°C for 3 minutes. After cooling, 2.5 ml of phosphate buffer was added to the above solutions. The absorbance was measured using UV-Visible spectrophotometer at 416nm.

The percentage inhibition of protein denaturation can be calculated as,

Percentage inhibition = 100 - [(Abs of test solution - Abs of product control) x 100] Abs of test control

The control represents 100% protein denaturation. The results were compared with Diclofenac sodium (250mcg/ml) and it is shown in table 1.

In-vivo anti-inflammatory study of Myaxyl capsule

Animals

This study was conducted at Amala Cancer Research Institute, Thrissur. 30 adult male albino mice, weighing 25-30 gm, obtained from Kerala Agricultural University, Mannuthi, Thrissur, were used. The Mice were maintained under standard laboratory condition and were fed standard lab chew and water before and during the experiment. Mice were divided into five groups; each containing six individuals, and then each of the groups was kept in different cages. The study was conducted as per the protocol approved by Animal ethics committee of ACRI.

Anti-inflammatory Studies[8]

Anti-inflammatory effects of MYAXYL 300, 600 and 900 mg/kg body weight (BW) were investigated in a Carrageenin induced inflammation model in aseptic condition

Inflammation Model Induced by Carrageenin in Mice[9]

In this series of experiments, the effects of MYAXYL 300, 600 and 900 mg/kg BW and Diclofenac 10 mg/ kg BW on the acute phase of inflammation were investigated. Doses were administered orally once an hour before injecting Carrageenin. An hour after the last dose was administered; 0.2 ml of Carrageenin (20µlCarageenin in 0.1% CMC) was injected into the rat hind paw. Before Carrageenin injection, the paw volume for each rat was measured separately by means of Vernier Calipers.

Inflammation caused by Carrageenin was measured at 0, 1, 2, 3, 4, 6 and 24 h The anti-inflamatory potency of MYAXYL was determined by comparing it with a control group.

Statistical Method

Values reported are the mean, S.E.M. The Kruskall–Wallis test and a probability level of $p < 0.05$ were chosen as the criterion for statistical significance.

RESULTS

Table 1. Phytochemical parameters of the capsule powder:

Qualitative Estimations	Standard	Result	Remarks	
Flavanoids Resins	Shinoda test Sulphuric acid test	Positive Positive	Yellow colour Crimson red colour	
Boswellic acid content Curcumin content	NLT 60% NLT 10%	67.3 % 14.85%		
Thin layer chromatography	Solvent system	Spray reagent	Rf Value	Colour
Boswellic acid *(Methanol extract)*	Toluene: Ethyl acetate (8:2)	Vanillin - Sulphuric acid reagent	0.08 0.3 0.50 0.58 0.6 0.8	Blue Yellow Violet Blue Violet Blue
Curcuminoides *(Methanol extract)*	Toluene: Ethyl acetate (93:7)	Vanillin - Sulphuric acid reagent	0.15 0.23 0.38 0.53 0.76 0.84 0.92	Violet Violet Violet Violet Violet Blue Blue

Table 2. Pharmaceutical parameters of Capsule:

Powder Characteristics:		
Colour	Dark yellow	Dark yellow
Odour	Characteristic	Characteristic
Taste	Characteristic	Characteristic
Moisture content	NMT 1%	0.6%
Bulk density	0.3 - 0.5 g/ml	0.45 g/ml
Tapped density	0.5 – 0.7 g/ml	0.65 g/ml
Capsule Characteristics		
Description	'0' size capsule with yellow cap and yellow bo	'0' size capsule with yellow cap and yellow body
Thickness	7.0 + 0.5 mm	7.1mm
Locked length	2.1 + 0.1 cm	2.104 cm
Avg. wt. of 10 capsules	5.0 + 0.5 g	5.014 g
Disintegration time (D.T)	NMT 15 min.	3 min. 10 sec.

Table 3. In-vitro anti-arthritic activity of Myaxyl capsule:

Samples	Concentration	Anti-arthritic activity
Myaxyl capsule	250µg/ml	70.37%
Diclofenac sodium	250µg/ml	76.85%

MYAXYL at 4th hr, at the doses of 300, 600 and 900 mg/kg BW decreased Inflammation induced by Carrageenin at the rate of 16.04% (p.0.002), 26.42% (p, 0.002) and 30.66% (p, 0.002), respectively to that of control.

CONCLUSION:

The study reveals that the poly herbal formulation – Myaxyl capsule, satisfies standard parameters and has good anti-arthritic activity. Further in-vivo animal studies substantiated the result and it is forwarded for human study so that efficacy can be proved with documented evidence.

KEY WORDS:

Myaxyl capsule, phytochemical parameters, pharmaceutical parameters, anti-arthritic activity, animal studies.

Table 4. In-vivo anti-inflammatory activity of Myaxyl capsule:

Group	No. of animal	Dose	Mean		Control-Med	%	p-Value
			Hr 0	Hr 4			
Control	6		0.32	0.35			
Diclo	6	10	0.34	0.25	0.11	29.72	0.002
Myx 1	6	300	0.32	0.30	0.06	16.04	0.002
Myx 2	6	600	0.33	0.26	0.09	26.42	0.002
Myx 3	6	900	0.34	0.25	0.11	30.66	0.002

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Turmeric wins heart. Again!



It is no longer news when we talk about the merits of turmeric. This Zingeberaceae family member has been receiving accolades from the modern world for a long time now. They have 'discovered' its anti-histamine, anti-inflammatory, anti-oxidant, anti-microbial and anti-cancerous properties. Volumes of research works claim to have observed its effect on skin diseases, respiratory diseases, diabetes and so on. Check out the latest study report by American Journal of Cardiology.

Science now has strong evidence to believe that Turmeric extracts



can fight heart attacks after bypass surgery. Prolonged lack of blood flow during bypass surgeries damages heart muscles and can put the patients at risk of cardiac failure. Curcumin, the pigment that gives turmeric its characteristic yellow color and most of its astounding properties, are now found to reduce the risk of heart attacks after bypass surgery.

For the study, 120 candidates who underwent non-emergency bypass surgery between 2009 and 2011 were selected. Half of them were given 1gm curcumin capsules four times a day, from three days before the surgery and continuing for five days after the surgery. The other half was given placebo capsules in the same dosage and timing.

Around 30 percent of patients in the placebo group encountered a heart attack within days after the surgery while only 13 percent of patients in curcumin group had met the same fate. The study deduces that patients on curcumins had a 65 percent lower risk of heart attack. Also, the blood levels of inflammation markers and oxidative stress markers like C-reactive protein and malondialdehyde in the curcumin group patients were much low indicating a better state of recovery and overall health.



"BIOGEST and HISTANTIN"

the best combination for upper respiratory tract infection



BIOGEST TABLET

Remedy for Chronic recurrent infection

- Useful in upper respiratory tract infection.
- Reduces throat infection.
- Relieves symptoms of nasal blockage running nose and contact allergic conditions.
- Reduces inflammation and pain.
- Preservation of intestinal flora.



HISTANTIN TABLET

Combination of Anti-allergic drugs

- Treats allergy without any side effects.
- Free from drowsiness, sedation and drug dependent.
- Fast relief from running nose and other allergy.
- Ant-allergic with excellent anti-histaminic and antipruritic action.

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Rice Pouch Fomentation
(shashṭika piṇḍa sveda)



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Introduction

External unction *(baahya snehana)* and fomentation *(svedana)* are the two major procedures for preparing a person for panjca-karma. Combining these two was, perhaps, one of the most ingenious practical applications of Ayurveda that the illustrious physicians of Kerala have ever made. Doing so imparted them with a powerful weapon to fight infirmity; a weapon by which they could not only prepare the person for panjca-karma with greater efficacy and shorter time span but also find answers to a lot of unrelenting clinical dilemmas. Rice Pouch Fomentation *(Shashṭika Piṇḍa Sveda)* is one such brain child.



Shashṭika Rice

This particular rice [*Oriza sativa*; Njavara/navara (Mal.)] used here is an endemic variety found exclusively in Kerala. This species is facing challenges of extinction and is being given special conservative attention nowadays. Among the two varieties, black glumed and golden yellow glumed, the former is used for medicinal purposes. As per the classical texts, this rice belongs to the *vreehi* variety and is considered the best among *vreehi* rice. In general, *vreehi* rice are sour in metabolic effect but *shashṭika* is sweet in it. It has a maturing period of 60-90 days. (the term *shashṭika* refers to 60 days). The grains cured for one year are ideal for this purpose.

Piṇḍa Sveda

Piṇḍa sveda means fomentation using a hot pouch containing some mass. *Piṇḍa* means mass. In rice pouch fomentation, the mass inside the pouch is cooked rice. A pouch bound with mass inside is known as *kizhi* in Malayalam.

Usually in pouch fomentations, a pouch of pure cotton or linen cloth (45 x 45 cms) is used to bind the medicines, leaves or cooked rice etc. The corners of the cloth are brought together over the mass, folded and wound with a string to serve as handle.

It is a common practice to make a pouch that is looser than those made for other applications like



Powder Pouch Fomentation *(Coorṇa Piṇḍa Sveda)*. Cotton cloths with larger mesh are also in vogue. This is to facilitate easier squeezing of the pouch and to deftly let out the rice paste from the pouch.

Sveda

Here, the term implies therapeutic fomentation procedure to induce sweating by the application of heat. Since rice pouch fomentation is more inclined towards nourishment *(bṛmhaṇa)* as opposed to fomentation, the word *svedana*, for this pouch application, is considered as a misnomer by many. Because of this same reason, it is seldom used as a preparatory procedure for panjca-karma. Usually the procedure attains the status of a complete treatment.

Administration

Rice pouch fomentation shares a lot of indications and contraindications with Oil irrigation *(sekam)*. Hence it is not unusual for physicians to couple



these two procedures or do one after the other. Dr. Raghavan Thirumulpad observes that in conditions where weakness and/ or emaciation are prominent, rice pouch fomentation is preferred over oil irrigation. Rice pouch fomentation cleanses the channels better, strengthens bio-fire, improves the body consistency and provides better massage in comparison with oil irrigation.

It is efficient as a nourishing therapy. Its use in disuse atrophy is much celebrated. This application is also done locally in extreme degenerative arthropathy. However, it is found to exhibit no specific action in inflammatory disc pathologies, ligamental pathologies or myopathy or primary muscle disorders.

Indications

Frequent joint dislocations, insomnia in geriatric care, wasting of muscles, chronic neuralgia, paralysis and other neurological disorders.

Contraindications

Common cold, cough, fever, edema, indigestion and all other conditions that are contraindicated for general fomentation.

Duration

Generally, the entire procedure is done for a minimum of 45 minutes. In many instances, this is gradually increased to 1 hour and then reduced back to 45 minutes during the course.

Course

Usually done for 7 days and can be increased to 14 or 21 days depending upon the condition of the patient. While coupling with oil irrigation, Rice Pouch Fomentation is done for seven days after seven days of oil irrigation.

Materials and equipments

1. *Njavara* Rice *(Shashṭika)* - 500 gms
2. Crushed Sida roots *(Sida cordifolia)* - 500 gms
3. Water – 12 liters
4. Milk – 3 liters
5. Medicated oil for body massage (*Dhanvantaram taila, Balaa taila* etc.) - 100 to 150 ml
6. Medicated oil for vertex application (*Ksheerabalaa taila, Maasha taila* etc.) - 5 ml
7. T-bandage/ Loin cloth
8. Massage table
9. Cotton cloth (45x45 cms) - 4
10. Cotton thread
11. Utensils for cooking and warming oil and pouches
12. Stove
13. Palm leaves/ Rexin strands for scraping - 2 pieces
14. Blanket – 1
15. Towels – 2
16. Materials for bath [if bath is indicated]
17. Medicated water for bath [if bath is indicated]
18. Medicated powder to be smeared over the vertex (*Raasnaadi* powder) – 1-2 gm



Attendants

Minimum 3 attendants are required for full body fomentation.

Procedure

Pre-procedure

Preparation of medicine

- Prepare decoction of Sida root (500 gms Sida root + 12 liters water on boiling it is reduced to 3 liters decoction)
- 1 ½ liter Sida decoction + 1 ½ liter milk are mixed
- Add 500 gms rice into it, cook it till it attains a thick consistency like that of pudding
- Remaining 1 ½ liter decoction and 1 ½ liter milk are mixed and kept warm. This is used for dipping the pouch in between the procedure for maintaining temperature of pouch
- Four pouches of equal weight and dimension are tied and kept ready



Preparation of patient

- Confirm that the patient is suited for the procedure
- Ensure that the patient is not under any physical urges like micturition and defecation
- Ensure that the patient is not very hungry or thirsty and not with full stomach
- Prescribed oil is applied over vertex
- Body massage is given for about 20 minutes with medicated oil



Main procedure

- Two therapists are positioned on either side of the patient's body. The third attendant dips the pouches in the warm liquid and hands over to the therapists frequently. It is applied from shoulder downwards in the postures stipulated for oil massage.
- The pouches are squeezed mildly so that small quantity of rice paste from the pouch comes out on to the body. The therapist simultaneously massages and smears this paste over the body with the other hand.
- At regular intervals, the pouches are dipped in the Sida decoction which is kept warm by mild flame. This wets the pouch, maintains the temperature and soaks the pudding so that the rice paste comes out.



Model: Sreejith | Photos: Dr. Suraj Sudash

Post procedures

- After the concerned time, wipe off the contents from the patient's body by using palm leaves or Rexin strand
- Apply fresh oil all over the body below neck
- Cover the body of the patient with blanket and let the person lie down in a room free from direct air flow and humidity for about half an hour
- If indicated, the patient may bath with medicated lukewarm water
- Apply herbal powder like *Raasnaadi* or *Kaccooraadi* etc, on to the vertex
- The patient should take rest for at least 2 hours
- Easily digestible diet can be given subsequently

Precautions

- The heat of the pouch should be comfortable to the patient. The core of the pouch may be warmer than the surface. Be wary while squeezing out the paste.
- Make sure to check the temperature by applying the pouch on the other palm of the therapist and adjust it to comfortable warmth of the patient before application.
- Do not apply cool pouch which can cause hypothermia thereby leading to tremors and worsening of the person's condition.
- Also after the procedure, the paste has to be wiped off immediately to avoid the risk of hypothermia.
- Pouch application should not be interrupted. Even when the pouches are removed for warming it up, massage should be continued with the hands.

Adverse effects and management

- Accidental burns and effect of over sudation (fomentation) should be managed as mentioned in chapter of sudation. If signs of dehydration occur, measures of rehydration should be taken.
- Tremors caused due to interruption of the procedure should be subsided by wiping the body and covering it with a blanket.

Benefits

- Strengthening
- Provides lightness, softness and mobility to joints, tendons, muscles etc
- Nourishment therapy (*Rasaayana* property)
- Tones up the nerves
- Can be done in a healthy individual for the purpose of rejuvenation. ■

Cases of the tri-month

Sub-fertility

Kerala Ayurveda Hospital, Aluva

Presented here are the case files of a couple who got admitted at Kerala Ayurveda Hospital, Aluva, with inability to achieve pregnancy even after 5 years of married life. Though the husband and wife got admitted at two different dates, their cases are presented in conjunction since in this institution, sub-fertility cases are managed as a couple-therapy rather than an individual-centric treatment. Also, this parallel narration might help in highlighting the contrast of ayurvedic management for sub-fertility in males and females.

A couple, David and Ann (names masked) was admitted in our hospital complaining inability to achieve pregnancy even after 5 years of unprotected sexual intercourse.

Earlier, they were admitted in allopathy hospitals for sub-fertility treatment and were given medications which yielded no positive result. Both of them had no family history of sub-fertility, spontaneous abortion, still birth or congenital diseases and were conscious, oriented and cooperative for the examinations and treatments thereon.

Case abstract

Husband: David				
Age	**Weight**	**Height**	**Occupation**	**Religion**
40 years	70 Kg	172 cm	Engineer	Christian
OP No	**IP No**	**DOA**	**DOD**	
5997	6851A	18/12/09	28/12/09	

David was admitted for no issues after five years of unprotected intercourse. He also complained of moderate pain in the neck, calf muscles and low back since the last 3 years. Occasional aches and numbness of hands and feet were present. He had no history of diabetes, hypertension and piles. No history of any accidents or sexually transmitted diseases (STDs) was reported. History of neuropathy, endocrinopathy, cardiovascular, respiratory, renal and hepatic disease was absent. Secondary sexual characteristics including hair distribution, body configuration and puberty were normal. He underwent a repair of inguinal hernia five years back. BP noted at the time of examination was 130/90 mm Hg.

Wife: Ann				
Age	**Weight**	**Height**	**Occupation**	**Religion**
35 Kg	50 Kg	156 cm	Accountant	Christian
OP No	**IP No**	**DOA**	**DOD**	
13811	6918 A	27/01/10	11/02/10	

Ann was admitted for no issues after five years of unprotected intercourse. She also had grabbing pain in the neck and low back. She was admitted a month after David got discharged. Her periods were regular but painful and were often delayed (LMP-8th Dec 2009). The pain and difficulties used to subside after the menstrual flow. She had no history of STDs.

On 24/02/09, she underwent an ultra sound scanning which showed bulky uterus with 28 mm endometrial hyperplasia, 2 cm thickened anterior wall and had a cyst of 35 x 31 mm dimension in the right ovary. The left ovary was normal.

On 06/07/09, another USG was done. Endometriosis with endometriotic cyst in right ovary and a small fibroid in the uterus were confirmed.

Nearly four months each after the first and second USG, she underwent in-vitro Fertilization (IVF) twice dated Jun 2009 and Nov 2009 respectively but was unsuccessful.

She underwent laparoscopic surgery for the uterine fibroid.

No specific history of neuropathy, cardiovascular, respiratory, renal or hepatic diseases was noted. Secondary sexual characteristics including hair distribution, body configuration and puberty were normal. She had a normal gynecological structure and was within the fertile age range. No oral medicines including steroids or contraceptives were taken and had no previous history of chemotherapy. Her BP at the time of admission was 120/90 mm Hg.

David	
Date: 17/12/09	
Hematology	
Hemoglobin	15.3 gm/dl (11.5-16.4)
ESR	5mm/hr (5-15)
WBC Total	6900/cumm (4,000-11,000)
Neutrophils	64 %(40-70)
Lymphocytes	34 %(20-40)
Eosinophils	2 %(1-6)
Biochemistry	
FBS	93mg/dl (70-110)
PPBS	127 mg/dl (<140)
S. Urea	26mg/dl(10-50)
S.Creatinine	0.95mg/dl(0.9-1.3)
Lipid Profile	
S.Cholestrol	247 mg/dl (<200-Desirable for Men)
S.TGL	102 mg/dl (<150-Desirable for Men)
HDL	34 mg/dl (>55- Desirable for Men)
LDL	160 mg/dl (>160-High for male)
VLDL	34 mg/dl
Liver Function Test	
S.Bilirubin (T)	0.4 mg/dl(Up to 1)
S.Bilirubin (D)	0.1 mg/dl (<0.3)
SGOT	37 U/L (Up to 37)
SGPT	43 U/L (Up to 41)
ALK.Phosphatase	66 U/L (40-129)
Total Protein	7.5 gm/dl(6.6-8.7)
S.Albumin	4.3 gm/dl(3.8-4.4)
S.Globulin	3.2 gm/dl(2.3-3.5)
A/G Ratio	1.3:1
Date: 26/12/09	
Lipid Profile	
S.Cholestrol	239 mg/dl (<200-Desirable for Men)
S.TGL	168 mg/dl (<150-Desirable for Men)
S.HDL	73 mg/dl (>55- Desirable for Men)
LDL	132 mg/dl (>160-High for Female-Direct Measurement)
VLDL	34 mg/dl

Semen Analysis			Date: 17/12/09	
Macroscopic Examination				
Volume	Color	pH	Liquefaction time	Viscosity
1 ml	Opaque grey	8	half hour	Normal
Microscopic Examination				
Motility (within 60 min ejaculation)				
Rapid progressive motility	60 % (50 or more with forward progression)			
Slow progressive motility	20% (25 or more with rapid progression)			
Non progressive motility	10%			
Immotility	10%			
Sperm concentration	36 million/ml(20 or more)			
Morphology (per 100 sperms)				
Normal%	Head defects	Mid piece defect	Tail defect	
70(30 or more)	10 %	10%	10%	
Agglutination		Present		
Pus cells/Germ cells/HPF		>50		
RBC/HPF		Nil		
Epithelial cells/HPF		1-2		
Impression: Normozoospermia (Normal in count, motility and morphology)				

Ann	
Date: 29/01/10	
Urine pregnancy test	Negative
Date: 31/01/10	
Bio-Chemistry	
Lipid Profile	
S.cholestrol	167 mg/dl (<200 -Desirable for Female)
S. TGL	102 mg/dl (Upto200 -For Female)
S. HDL	34 mg/dl (<45 -High risk for female)
LDL	113 mg/dl (<130 -For Female-Direct Measurement)
VLDL	20 mg/dl (10-30)
Date: 01/02/10	
Hematology	
Hemoglobin	14gm/dl (11.5-16.4)
ESR	8mm/hr (5-20)
WBC Total	5500/cumm (4,000-11,000)
Neutrophils	56 %(40-70)
Lymphocytes	42 %(20-40)
Eosinophils	2 %(1-6)
Group Rh	O positive
Date: 03/02/10	
Clinical Pathology	
Urine R/E	
Albumin	F.trace
Sugar-	Nil
Microscopic Examination	
WBC	2-4/HPF (1-5 for Female)
RBC	0-1/HPF (Up to 5 for Female)
Epithelial Cells	1-3/HPF (1-5 for Female)
Cast	Nil
Bacteria	Present
Crystal	Nil
Date: 07/02/10	
Bio-Chemistry	
Lipid Profile	
S.Cholestrol	168 mg/dl (<200 -Desirable for Female)
S. TGL	104 mg/dl (Upto200-For Female)
S. HDL	37 mg/dl (<45 -High risk for female)
LDL	108 mg/dl (<130 -Desirable for Female-Direct Measurement)
VLDL	VLDL-23 mg/dl
Urine R/E	
Albumin-trace	
Sugar-Nil	
Microscopic Examination	
WBC	4-6/HPF (1-5 for Female)
RBC	Nil (Up to 5 for Female)
Epithelial cells	2-4(1-5 for Female)
Cast	Present
Bacteria	Present
Crystal	Nil
Date: 08/02/10	
Bio-Chemistry	
ASO	83 IU/ml (<200 for Female)
Rheumatoid Factor	9.4 IU/ml (Up to 15 for Female)

Ayurvedic examination

David	Ann
Prakṛti- Vaata pitta All the examinations done based on the *ashṭasthaana pareekshaa, daṣavidha pareekshaa* and *sroto pareekshaa* were normal except for the following observations: *Jihva: Upalipta* *Dooshyam- Ṣukra* *Medo-vaha srotas*-Numbness *Asthi-vaha srotas*-cracking sensation in teeth *Majjaa-vaha srotas*-Giddiness *Ṣukra-vaha srotas*-Sterility ***Dosha*** Rakta Pitta ***Aama*** Present	***Prakṛti***- Kapha pitta All the examinations done based on the *ashṭasthaana pareekshaa, daṣavidha pareekshaa* and *sroto pareekshaa* were normal except for the following observations: *Jihva-Upalipta* *Dṛk*- Using spectacles 0.25 points. Feels pain on reading for a long time. *Dooshyam-Rasam, Raktam, Majja* and *Aarttava* *Medo-vaha srotas*- Slight burning chest and stomach, gas trouble, heaviness, obstruction of channels of circulation *Majjaa-vaha srotas*- Giddiness *Aarttava-vaha srotas*- Menstrual disorders ***Dosha*** Vaata kapha ***Aama*** Present

Diagnosis

David	Ann
Provisional Diagnosis *Ṣukla dosha* **Differential Diagnosis** Congenital abnormalities *(beejopataapa)* and Loss of Libido *(klaibya)* were not found and hence excluded. Since semen analysis showed pus cells and agglutination, disease of sperm *(ṣukla dosha)* was under consideration. Amongst eight *ṣukla dosha* , the symptoms of *pooya ṣukla* matches to this condition **Diagnosis** *Pooya ṣukla* According to modern medicine presence of pus cells less than 50/HPF in one's semen is normal. But pus in semen is considered as *pooya ṣukla* and is a disease condition as per ayurvedic faculty.	**Provisional Diagnosis** *Yoni Vyaapat* **Differential Diagnosis** As her gynecological features, hormonal status and sexual characters were normal, chances of *shantha* were minimal. Though her recent menstrual history showed delayed and painful menstruation, *aartava vyaapat, rakta gulmam* and *jaatahaarinee* were also ruled out for the want of specific symptoms. The presence of painful and delayed menstruation, relief of symptoms after menstrual flow etc. were indicative of the *yonee vyaapat, udaavartinee*. Since retrograde menstruation, another symptom of *udaavartinee*, is believed to be a cause of endometriosis, the presentation of endometriosis and cysts in this patient can be included in *udaavartinee*. **Diagnosis** *Udaavartinee*

Treatment plan

David	Ann
Sub-fertility management targeting management of *pooya ṣukla* was charted based on Ashtaamga-hṛdaya. Before the initiation of specific treatment, purification procedure was done as it is a mandate.	For *Udaavartinee ushna* and kapha vaata pacifying treatments are needed. So *ṣodhana* can be done followed by *ṣamana*. Specific medicines for sub-fertility can be added accordingly later on.

Treatment schedule	
David	**Ann**
Internal Medicines	**Internal medications**
1. *Vilvaadi gulika* with ginger juice and honey 1-0-1. (18/12/09 to 24/ 12/09)- For proper digestion of the ghee)	1. *Saptasaaram kvaatha* 15ml+45ml lukewarm water at 6 am & 6 pm 2. *Pippalyaasavam* + *Abhayaarishtam* 20 ml + Vilvaadi gulika 1 tab; twice daily after food
External Treatment	**External Treatment**
Pre operative treatment for 14 days	**Pre Operative treatment for 16 days**
a. *Snehapaana*: *Indukaantam ghrta* for 7 days (18/12/09 to 24/ 12/09) b. *Abhyanga: Sahacaraadi taila* for 5 days (19/12/09 to 23/ 12/09) c. *Svedana*: Steam bath for 2 days	a. *Snehapaana: Sukumaara ghrta* for 7 days b. *Svedana*: 9 days I. *Coorna svedam* (half body)-1 day, (local)-4 days, (full body)-2 days II. Steam bath -2 days *(Dhanvantaram taila)*
Main treatment for 3 days	**Main Treatment for 4 days**
a. 26/12/09: *Maadhutailika vasti* followed by *Maatraa vasti* with *Pippalyaadi anuvaasana taila* b. 27/12/09 & 28/12/09 : *Raajayaapana vasti* had given followed by *Maatraa vasti* with *Pippalyaadi anuvaasana taila* (text box)	a. 09/02/10: *Maadhutailika vasti; Maatraa vasti* with *Pippalyaadi anuvaasana taila* and douche with *Varanaadi kvaatha* + *Ponkaaraadi coorna* b. 10/02/10: *Varanaadi kashaaya vasti*, followed by *Maatraa vasti* with *Eranda Sukumaaram taila*(60ml), douche with *Varanaadi kvaatha* + *Ponkaaraadi coorna* was given c. 11/02/10: *Sukumaaram kashaaya vasti*, Maatra vasti with *Pippalyaadi anuvaasana taila* and douche with *Varanaadi kvaatha* + *Ponkaaraadi coorna* d. 12/02/10: douche with *Varanaadi kvaatha* + *Ponkaaraadi coorna*
Indukaantam ghrta: bala vardhanam *Maadhu tailika vasti: brmhanam, balakaram, varnakaram, nirupadravam, vrshyam and rasaayanam.* *Raaja yaapana vasti: sukla vardhanam, puthradam* and subsides pain over groin and pelvic regions. Sage Bhela told about the *vrshyata* of vasti as even an impotent man becomes a man in all senses of the term. He also indicates that it removes obstructions in the path of semen ejaculation, it protects the body from emaciation due to sex, it ignites desire for women even in those deficient in semen, it alleviates dosha vitiation and enables women to conceive and it also nourishes a lean person and make him corpulent.	
Post operative treatment	**Rescue medicines:**
After the purification procedures, the strength of the patient and his bio-fire was analyzed and special infertility management with *vaajeekarana* drugs was initiated. The medicines were given as discharge medicines.	02/02/10: *Raasnaadi coorna* + lemon juice – *Lepam* on forehead (c/o headache and slight blurring of vision both on the left side) 03/02/10: *Ashta coorna* 1 tsp + *Dhanvantaram gulika* 2 tabs-several times (c/o loose motion (4 times); headache did not subside completely) 10/02/10: *Draakshaadi kvaatha* (15ml +60ml lukewarm water) (c/o slight burning sensation in stomach after *vasti*)
Sukumaaram ghrta is *bala vardhanam* hence it was selected for *snehapaanam*. *Pippalyaadi anuvaasana taila* is provided for *moodha vaataanulomanam*. Consequently they were taken for the treatments.	

Discharge medicines for 3 months	
1. *Nyagrodhaadi ghṛta*- 1tsp; twice daily before food 2. *Gokshura coorṇa* + *Aṣvagandha coorṇa* - 1tsp(combined) with water at bed time. Follow up was on 11th Feb 2010 and prescribed *Gokshura coorṇa* + *Aṣvagandha coorṇa* 1 teaspoon each along with water at bed time with the existing medicine.	1. *Varaṇaadi kvaatha* (15ml +45ml lukewarm water) + *Kaancanaara guggulu* 1tab- at 6 am 2. *Sukumaaram kvaatha* (15ml +45ml lukewarm water) + *Rajapravarttinee vaṭika* 1tab- at 6 pm 3. *Kalyaaṇakam kvaatha* (15ml +45ml lukewarm water) + GT capsule 1 nos- at bed time 4. Ṛturanjini syrup- 1tsp – 0- 1tsp ; daily after food 5. *Abhayaariṣṭam* + *Hinguvacaadi gulika* 1 tab- during periods for pain 25 ml thrice daily after food 6. *Dhanvantaram taila* for external application

Follow up medicines	
23/02/10	
David	**Ann**
1. *Naarasimha rasaayanam*- 1tsp- twice daily before food 2. *Gokshura coorṇa* + *Aṣvagandha coorṇa* + *Kapikacchu coorṇa* - 1tsp (combined) with 1 tsp ghee and ½ tsp honey –twice daily before food	1. *Kumaaryaasavam* 25 ml twice daily 2. *Kalyaaṇa gulam* 1 teaspoon once daily 3. *Phalasarpis* 1 tsp + *Kalyaaṇa kshaara* 2 gm + *Hinguvacaadi coorṇa* ½ tsp once daily

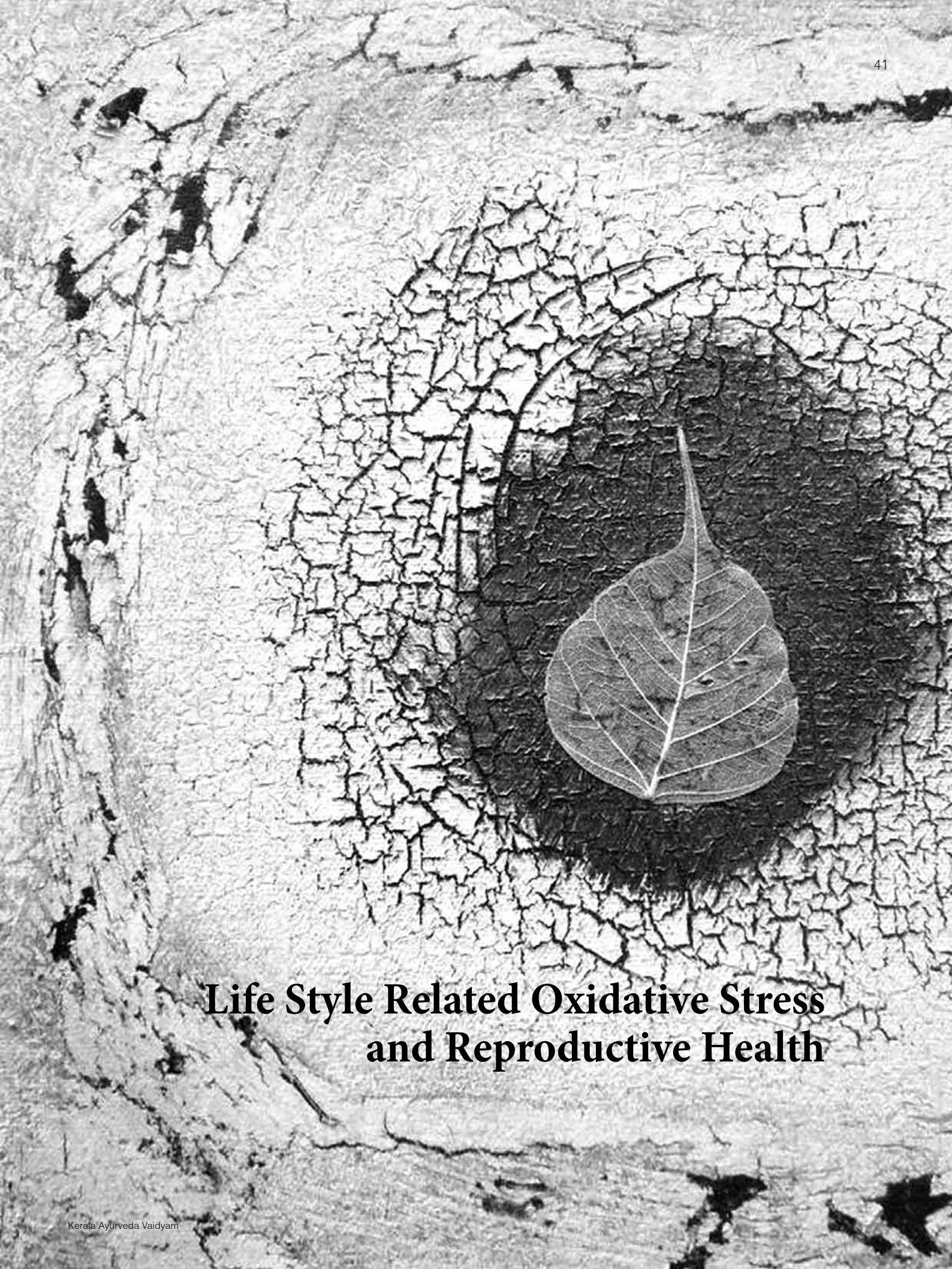
Results of the treatments

Semen Analysis			**Date: 20/02/10**	
Macroscopic Examination				
Volume	Color	pH	Liquefaction time	Viscosity
2.4 ml	Opaque grey	8	15 min	Normal
Microscopic Examination				
Motility (Immediately after Liquefaction)				
Actively motile			45 %	
Sluggishly motile			25%	
Non motile			30%	
Motility (After 1 hr Liquefaction)				
Actively motile			40 %	
Sluggishly motile			30%	
Non motile			30%	
Sperm concentration			36 million/ml(20 or more)	
Morphology (per 100 sperms)				
Normal%		Immature and abnormal forms		
70(30 or more)		25 %		
Agglutination			Not detected	
RBC/HPF			Nil	
Epithelial cells/HPF			Occasional	
Parasites			Not detected	
Fructose			Positive	
Viability			40%(More than 50)	
Post-ejaculate Urine			Occasional sperms seen	
Impression: Repeat analysis over weeks to confirm or rule out Oligospermia				



David & Ann

Defects of semen were rectified. The couples had twin children on Jan 2012. The family is now healthy and happy. ■



Life Style Related Oxidative Stress and Reproductive Health



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Abstract

Life style plays a very vital role in the reproductive health of couples. The effects of lifestyle primarily those of smoking, diet and sedentary habits are important factors affecting fertility of men and women by generating oxidative stress. Latest research works have shown that oxidative stress affects the ovarian function, sperms and embryo's micro-environment. It leads to repeated abortions, infertility, congenital anomalies and intrauterine growth retardation. Being predominantly a preventive science Ayurveda can help in reducing oxidative stress and better fertility outcome. There are specific lifestyle guidelines mentioned for couples to achieve a healthy pregnancy. Besides, diet and drug schedule having mainly antioxidant property are mentioned for conception and its healthy outcome. So Ayurveda can play a pivotal role in reproductive health of a couple.

Key words

Oxidative stress, antioxidant, reproductive health, infertility.

Introduction

In ayurvedic texts there are detailed norms for a healthy lifestyle. People of the bygone era earnestly followed those guidelines. But today, lifestyle has changed a lot all over the world. In the present scenario everyone is running to execute their day-to-day assignments within the specified time. There is no time to eat and sleep. Mental work is more than physical work. All these things lead to lifestyle related oxidative stress which affects the reproductive health. The factors that lead to oxidative stress in the body or free radical production are air pollution, radiation and certain foods, cigarette smoking and even emotional stress. Today, radiation, pollution and psychological stress are rising day by day. People do not follow healthy lifestyle and diet. So, oxidative stress leads to infertility, repeated abortions and congenital anomalies in the fetus.

What is oxidative stress?

Aerobic metabolism is associated with the generation of pro oxidant molecules called free radicals or reactive oxygen species that include the hydroxyl radicals, superoxide anion, hydrogen

Ayurveda can help in reducing oxidative stress and better fertility outcome. There are specific guidelines mentioned for couples to achieve a healthy pregnancy.

peroxide and nitric oxide. To counter the effect of oxygen free radicals the body produce enzymes e.g. Superoxide dismutase, catalase and glutathione peroxidase that convert free radicals to less reactive substances. In addition, some nutrients such as vitamin E, C and beta carotene are antioxidants that counter oxygen free radicals. There is a complex interaction of the pro-oxidants and antioxidants resulting in the maintenance of intracellular homeostasis. Whenever there is an imbalance between the pro-oxidants and antioxidants a state of oxidative stress is initiated.

Free radicals can influence the oocytes, sperm and embryos in their micro-environment. These micro-environments have direct bearing on quality of oocytes, sperm oocyte interaction, implantation and early embryo development. Thus oxidative stress affects both implantation and early embryo development which determines successful pregnancy.

Oxidative stress and ovarian function

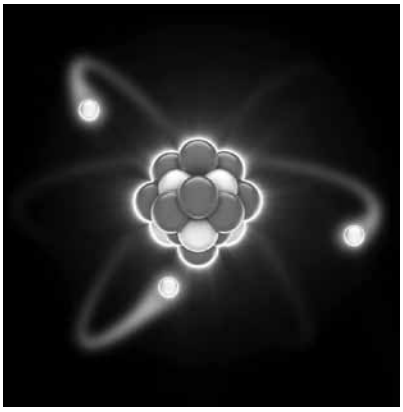
Aerobic metabolism utilizing oxygen is essential for energy requirements of gametes and free radicals play significant role in physiological processes within the ovary. Many studies have demonstrated involvement of ROS in follicular fluid environment folliculogenesis and steroid genesis. Oxidative stress has been shown to affect the mid-luteal corpus luteum and steroidogenic capacity. Decreased developmental potential of oocytes from poorly vascularized follicles has also been attributed to low intra-follicular oxygenation. Oxidative stress and inflammatory process have roles in the pathophysiology of Poly Cystic Ovarian Syndrome (PCOS).

Oxidative stress and endometrium

Cyclical changes in endometrium are accompanied by changes in expression of various antioxidants in the endometrium. Enzymes such as thioredoxin have a higher expression in early secretory phase and this could be important for implantation.

Placental oxidative stress and abortions

Implantation is a very well-orchestrated process that involves complex interactions between the embryo and uterine environment. A burst of placental oxidative stress during establishment of maternal circulation may cause early pregnancy loss. Spontaneous abortion is accompanied by a significant disruption of pro-oxidants and antioxidant balance. Oxidative stress may also have a role in patients with recurrent abortions with no known etiology. During pregnancy there is an increase of polymorphonuclear leucocytes that may result in increased generation of the superoxide ions. Oxidative stress may modulate expression of cytokines receptors in the placenta, cytotrophoblasts, vascular endothelial cells and smooth muscle cells and leads to recurrent pregnancy loss.



Oxidative stress and embryo development

Oxidative stress is involved in defective embryo development and retardation of embryo growth that is attributed to induced cell membrane damage, DNA damage and apoptosis. Apoptosis results in fragmented embryos, which has limited potential to implant and has results in poor fertility outcomes.

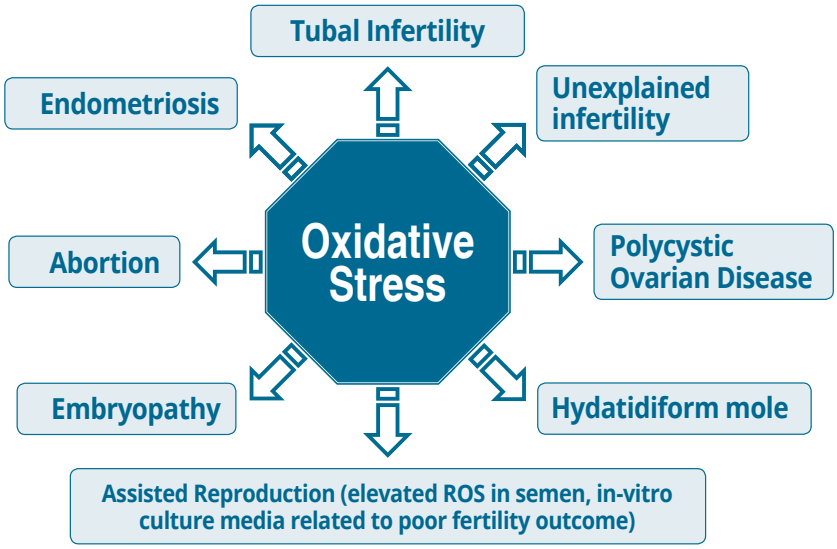
Oxidative stress and endometriosis associated infertility

Activated macrophages present in increased number in the peritoneal fluid of patients with endometriosis are known to release TNF alpha a pleotropic cytokine that induces toxic effect on gametes mediated by free radicals and plays an important role in endometriosis associated infertility.

Role of free radicals in male infertility

Increased generation of ROS in semen affects sperms functions especially fusion events associated with fertilization and leads to infertility. ROS are known to be generated from spermatozoa and leucocytes and resultant per oxidative damage causes impaired sperm function, sperm concentration and sperm motility.

So oxidative stress or free radicals have important role in modulating many physiological functions in reproduction as well as in conditions such as infertility, abortions, hydatidiform mole, fetal embryopathies and pregnancy



complications such as Intra Uterine Growth Retardation (IUGR) and pre-eclampsia.

Ayurvedic Management

Simply by accepting Ayurvedic guidelines and drugs we can prevent oxidative stress. In Ayurvedic texts the mode of living during menstruation is mentioned in detail.

During menstruation the woman should remain isolated to prevent infection. She should avoid excessive exercise, eat light and congenial diet such as meals made up of ghee, *saali* rice and milk or barley and milk to combat symptoms of premenstrual tension and dysmenorrhea like vomiting, diarrhea and headache. In order to keep her body healthy and to purify the digestive system she should take less quantity of meals and avoid pungent, hot and salty substances. She should not adorn herself with ornaments and should not anoint with oils. Pungent hot and salty substances should be avoided because being ecbolic they increase the blood loss during menstruation. Coitus is contraindicated during menstruation as it will cause retrograde menstruation and endometriosis which leads to infertility later on.

The 12 days after menstruation is the most fertile period. Some authors mentioned the fertile period to be 16 days. This is so because ovulation occurs from 12 to 16 days of cycle.

Very young or old women are not usually recommended to get pregnant as hormonal status of women will not be matured enough to sustain pregnancy in very younger age and in older age group the sperm will be fertilizing an ageing ova. Moreover, the woman of older age is likely to have associated medical problems like diabetes, hypertension etc. This can lead to repeated abortions, congenital anomalies of fetus and IUGR etc in both the age groups.

Coitus should not be done with a women who has overeaten or who is hungry, thirsty, frightened, averse, sorrow stricken, angry, longing someone else and chronically ill especially suffering from

SLAM JUNK

The journal Public Health Nutrition, published on behalf of The Nutrition Society presented a recent research study on junk foods. 8964 Spaniard adults with set standard living conditions, who had never been diagnosed with depression and had never taken any antidepressants, were observed of their eating habits over a period of 6.2 years.

The study made a shocking revelation that among these candidates, those who regularly ate junk foods such as burgers, hot dogs, doughnuts and aerated soft drinks were 51 percent more susceptible to depression than those who ate the least junk foods. Moreover, within this follow-up interval of 6.2 years, 493 candidates had to seek clinical attention for their depression.

The journal also observes that those who found these junk foods delectable were more likely to be lethargic, single and had poor eating habits and timings. Interestingly, they were less inclined towards healthy foods like fruits, vegetables, nuts and fish. A lot of them in the category became smokers and workaholics.

Next time, be wary when the cafeteria in your workplace imposes junk food on you. The work simply loves the workaholics.



gynecological disorders. These types of women either do not conceive or if they conceive then the child born suffers from teratological abnormalities. Abnormal mode of life and suppression of natural urges aggravate humors (*dosha*) which influence impregnation by generating oxidative stress.

Coitus is contraindicated in abnormal postures as it will lead to discharge of semen outside the vagina or it comes out readily from vaginal canal so that sperms fail to enter the uterus, both causing sub-fertility.

For producing a healthy offspring the couple should previously undergo purification therapy by subjecting themselves to unction, sudation, emesis and purgation and brought to normal diet. Then they should be given decoction enema (*aasthaapana*) and fat enema (*anuvaasana*). Panjca-karma procedures are bio purification measures. They help to remove toxins from the body and decreases oxidative stress and help to increase the chances of conception. Following purification they should be kept on special diet and medicine. Man should consume ghee and milk medicated with the drugs of the sweet group (*madhura varga*) and woman should consume sesame oil and black gram (*maasha*). Sweet group of drugs, milk promote the production of semen. Oil and black gram increase pitta and hence promote normal female reproductive functions. They are also antioxidants.

From the fourth day of menstruation the couple may engage in coitus in expectation of pregnancy after performing the special fire sacrifice for getting pregnant (*putreshṭi yajnja*). The sacrifice prepares the couple psychologically for the conception as psyche has direct relation with oxidative stress.

Implantation is a very well-orchestrated process that involves complex interactions between the embryo and uterine environment, a burst of placental oxidative stress during establishment of maternal circulation may cause early pregnancy loss.

Use of strengthening and nourishing diet (*bṛmhaṇa dravya*) is suggested to maintain health. A balanced diet is essential for this. Dietetic abnormalities influence nourishment of body or cause depletion of tissues (*dhaatu-naaśa*) due to malnutrition which influence fertilization by producing gynecological disorders, chronic illness etc. Fertilized egg is nourished by exudates of epithelial lining of the fallopian tubes and endometrium. These exudates are derived from *rasa-dhaatu* formed from maternal diet. If fertilized egg is not nourished properly, it either fails to develop or gets discharged into menstrual blood after getting implanted in endometrium. Balanced diet prevents oxidative stress at the level of fertilization and early embryo development.

Principles of treatment of infertility

1. Treatment of gynecological disorders which are specific causes of sub-fertility.

2. Forsaking other etiological factors such as abnormal diet, mode of life, psychological trouble etc.

3. Use of strengthening and nourishing dietary articles to compensate loss of strength (*bala*) and depletion of tissues (*dhaatu*).

4. Sub-fertile women should be prescribed emesis, purgation and decoction enema.

5. Amenorrhoea, scanty menses, non-ovulation or useless ovulation etc. are causes of sub-fertility. Fat enema (*anuvaasana-vasti*) should be prescribed to women with such problems.

6. Uterine enema and vaginal douche (*uttara-vasti*) is very beneficial in tubal sub-fertility (intrauterine), sub-fertility due to infections like chronic cervicitis etc.

Drugs for external use as nasal instillation, massage, and uttara-vasti:

Medicated oils

1. *Naaraayaṇa taila*
2. *Śatapushpaa taila*
3. *Laśuna taila*
4. *Balaa-taila*
5. *Śataavaryaadi anuvaasana-vasti*
6. *Guḍoocyaadi rasaayana-vasti*

Medicated ghee

1. *Laghu-phala ghṛta*
2. *Phala ghṛta*
3. *Paaneeya-kalyaaṇaka ghṛta*
4. *Śeeta kalyaaṇaka ghṛta*
5. *Śataavaree ghṛta*
6. *Laśuna ghṛta*

Others

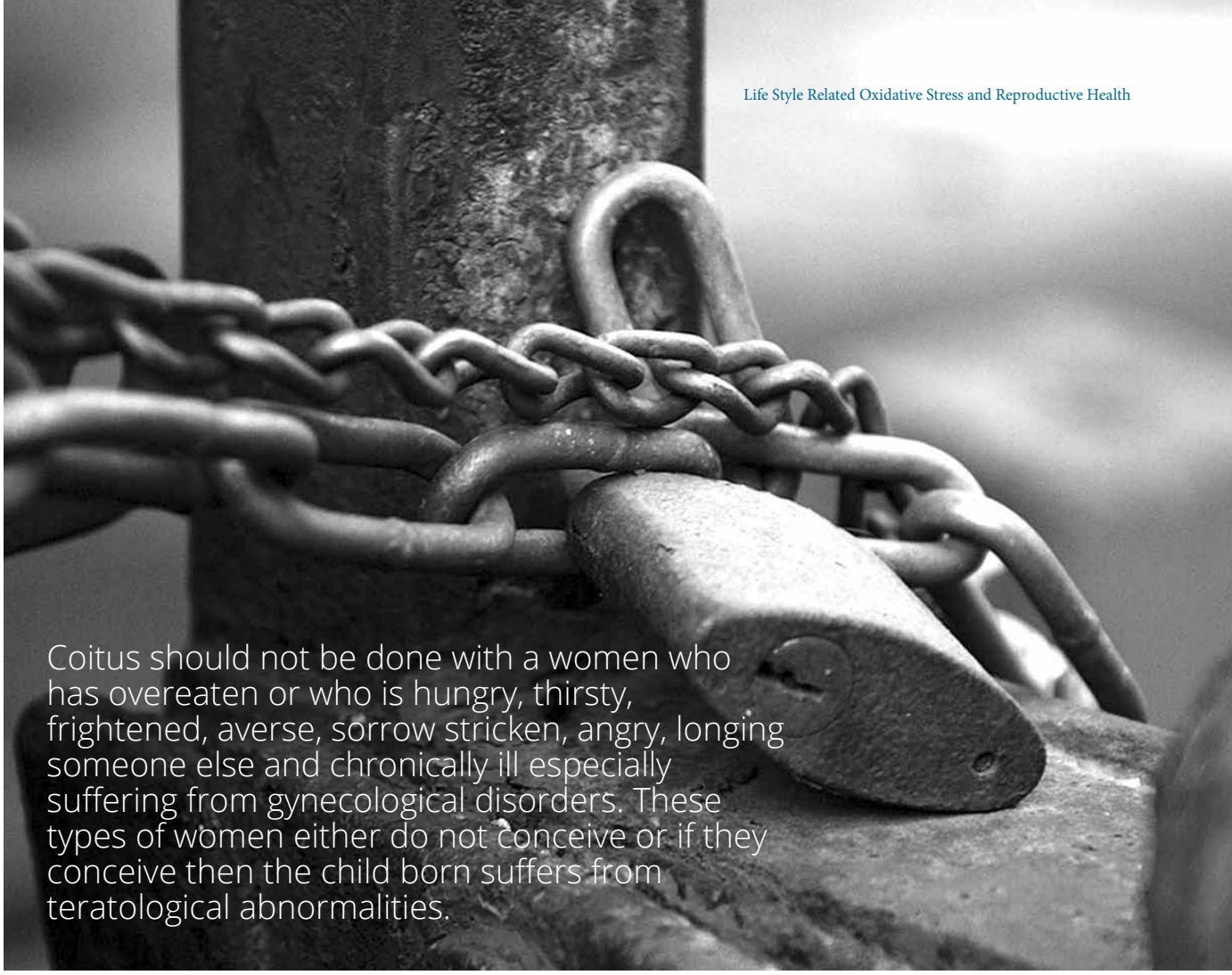
1. *Daśamoolaarishṭa*
2. *Mahaa-raasnaadi kvaatha*
3. *Mahaa-yograja guggulu*
4. *Pooga paaka*

Pathya Apathya

Garlic, milk and meat soup are indicated.

Substances producing burning sensation are contraindicated.

All the drugs mentioned above have mainly aphrodisiac (*vaajeekaraṇa*), antibiotic, anti-inflammatory and antioxidant properties. Garlic is preferably mentioned for sub-fertility because it is having antioxidant, radical scavenging, anti-aging, anti-peroxidase and antibiotic properties.



Conclusion

Free radicals and oxidative stress have important role in modulating many physiological functions in reproduction. So use of antioxidants supplementation in both male and female sub-fertility and healthy pregnancy outcome is a preventive approach, as there is high cost of such sub-fertility treatments. By following Ayurvedic principles and Ayurvedic drugs we can reduce oxidative stress at the time of conception that results in early conception and healthy pregnancy outcome.

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HIV vaccines round the corner

Remember rhesus monkeys? They are back in limelight. This time owing to a positive result of a vaccine study conducted by a group of US researchers. The report is published in the January issue of Nature. According to the report, an experimental vaccine used for the study helped protect monkeys from an especially deadly form of the AIDS virus, raising new hope for an effective vaccine in people.

The researchers used weakened versions of two viruses commonly used in vaccine development. One, a common cold virus called an adenovirus and another, a smallpox virus. The combination was used to deliver the primate version of the HIV antigen into the body and trigger an immune response.

After vaccinating the monkeys, the team exposed the animals to an aggressive version of simian immunodeficiency virus, or SIV. But on repeated exposure to SIV, eventually most of the animals did become infected but even then, the vaccine appeared to offer added protection.

Another exciting outcome of the same study is that it helped to identify a key part of the immune system that has to be protected from HIV virus that causes AIDS.

"We saw two things that were really important. A protection against infection, but even in animals that became infected, we saw reduced levels of virus. The vaccines we tested have had very extensive experience in the clinic, which means the transition from the animal work to the human work will be very easy, "said Colonel Nelson Michael, director of the U.S. Military HIV Research Program at the Walter Reed Army Institute of Research.

The result is promising enough that the researchers are expecting to start human trial of the vaccine by January 2013. ■



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- Memory toner
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In this column Kerala Ayurveda Vaidyam is providing the readers with traditional formulations which are not met with in classical treatises. The wisdom of these formulations was passed down through generations orally. Some of these formulations are recorded in the last century in regional formularies.

A medical coat for Trauma

It is a common practice to apply medicinal coats on areas of trauma and various formulations are used for this purpose. One such classical medicinal coat is 'black ointment' known as *karutta marmaani kuzhambu* in Malayalam. The formulation is mentioned in the Malayalam formulary 'Sahasrayogam' numbered as 16 in the section of *vataka* etc. The formulation is highly anti-inflammatory and has analgesic and hygroscopic properties.

This is proved to be effective in symptoms like pricking pain, ache and hyperemia. On continuous application exudation and the edema will be reduced.

The main peculiarity of this formulation is that it contains opium, a schedule E-1 somniferous drug known as *ahiphena* in Sanskrit. The ingredients of this formulation are:

- Starch of arrowroot (*tavaksheeri satva*) 8 parts
- Gum oleoresin of Boswellia serrata Roxb. (*kunturushkam*) 6 parts
- Aloes 2 parts
- Opium 1 part

The ingredients are triturated with the juice of Indian aloe to a semisolid consistency. The formulation may be made into pellets and dried under shade for later use. The pellet may be ground with ghee for application.

Obtaining starch of arrowroot

Juice of fresh arrowroot is kept aside for settling and the supernatant clear fluid is decanted to collect the starch. The collected starch is levitated in water and again decanted. The starch obtained is dried to get the arrowroot powder.

Obtaining gum of bosweliia and its purification

On cutting or bruising the *sallaki* bark an oleo-gum resin will secrete out which eventually solidifies. This on mixing with water forms a milky solution. The market sample is solid.

Preparation of Aloes (*kumaaree saara*)

The juice of Aloe is evaporated with driers to get the solid extract called Aloes.

Purification of Opium

Opium is dissolved in water and filtered through cloth. The solution is evaporated to solidity and is triturated 21 times in ginger juice to get a pure form.

The formulation of KM Lepam, a patent proprietary ointment by Kerala Ayurveda Ltd, is based on this medicine. Opium is not used as it a schedule E-1 drug but the efficacy of the product is not compromised. It can be applied with Myaxyl liniment, another proprietary product from KAL. ■



Rules and Rules

Editor-in-Chief

It was Mr. A.G. Gardner, the noted English essayist, who stated that there are rules and rules. In his essay titled "All about a dog" he clearly classifies rules into two - Rules and Rules. It may appear funny. But it is the truth. Truths are always paradoxically funny. Hence the Malayalam proverb 'if you tell the truth, even the swinging shelf will laugh'.

When you play by the rules keep it in mind that all rules are not alike. Some rules, you should never break. It will hurt you and others. It is detrimental to break such rules. Traffic rules are examples. But there are rules of convenience. You need not adhere to such dictums adamantly. Arduous attempts to keep such rules may spoil their spirit.

The bus conductor of the late night last bus to the terminus in a freezing winter, adamant in keeping the rule that pet animals are not permitted inside the bus kept the rule by his stern stand. He insisted that that the shivering old woman should travel on the deck with her pet pocket dog. This made maximum inconvenience to all the passengers and spoiled the spirit of the rule itself. It is then that Gardner was prompted to comment to the conductor that "there are rules and rules". He also stated that the conductor kept the rule and spoiled its spirit.

In Ayurveda also there are rules and rules - Absolute rules and Relative rules. Absolute rules should be kept at any cost. But in obeying relative rules the provisions provided are loopholes in the matrix of the rule. Hence there may be chances for you in them to avoid the rule if you opt so.

As a science, Ayurveda is both normative and descriptive. It describes things, events and phenomena and sets norms for a benevolent and happy life. If you are not skeptical and rational enough, you may better follow the norms of Ayurveda as it is always easy to keep yourself and others healthy by doing so. But if you are intelligent enough to understand the spirit of the norm, you may not follow it literally. You can keep the spirit of the norm even by breaking the rule. It is stated that the whole of Ayurveda is just illustration for the intelligent.

All our courts of law are constituted to interpret the rules and regulations enacted by the legislature to see whether the spirit of the rule is kept or not. Only the election rules are exceptions to this statement. They are always obeyed by the citation than the spirit.

The rule for waking up in the morning is a rule of convenience. You may wake up in between 4:25 and 5:12 A.M. to protect your life - when the sun rises at 6 A.M. This period is called *braahma muhoorta* in Sanskrit. A *muhoorta* is 48 minutes. The last *muhoorta* of night starts at 5:13 A.M. and ends at 6:00 A.M. when the sun rises at 6:00 A.M. Then the penultimate *muhoorta*, the *braahma muhoorta* spans from 4:25 to 5:12 A.M.

Naturally, this rule is in relation with the sunrise. In winter, sun rises sufficiently late especially in the continent and the day time is shortened. Over the continent, sun sets very late and rises very early in summer, substantially curtailing the length of the night. These natural phenomena should be kept in mind when you try to follow the rule of waking up.

There are other rules also, influencing the rouse. The norms of sleep has direct bearing upon the time of waking up. One should get six to eight hours of sleep per day. Hence, if the night is shorter than six hours, you need not get up 48 minutes before sunrise.

This means that the norm for waking up is optional and you need not adhere to the verbal citation of the norm. There are other options too. You may wake up at the stipulated time only if you are healthy. If you are sick, you may opt to sleep even after sunrise, if sleep is not contraindicated in the particular disease or condition suffered by you. And of course, you need keep the rule only if you want to be healthy. If not, you need not follow the rule. After all, Ayurveda is intended for those who want to live. It is not for those who want to suicide, however, belated the intention is. So you need not attempt suicidal adherence to the norms of Ayurveda. Always remember, there are rules and rules. ■


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5. Nardostachys jatamansi (jadmansi)	10 gm
6. Coconut oil	70 ml
7. Castor oil	30 ml
8. Annabhedi (Processed)	8 gm
9. Shanka choornam	2 gm

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