

Santhigiri Ayurveda Medical College

NEWSLETTER

Vol: 02 / Issue : 08 / May 2020 / Monthly Publication

Editorial

Gurucharanam Saranam

Greetings and wishes to all from the family of Santhigiri Ayurveda Medical College, Palakkad.

During this period of nearly five months there were many occasions in all the fields to celebrate all over the world, but all those celebrations were either postponed or cancelled due to COVID – 19 pandemic. Even the religious celebrations which have to be observed for inner spiritual growth with saatvikabhaava, but had been celebrated with unnecessary extravaganza in raajasika and taamasikabhaava, have been observed only with rituals inside the temples. Though it is really a hard time for everyone, still there is something which we can learn from this situation and adapt ourselves positively by graceful simplicity and universal brotherhood.

Due to closure of all educational institutions and university campuses we are in need of bringing a drastic change in our curriculum and academic calendar. Let me quote words of Dr Manrope, UNESCO, International Bureau of Education, once again, from a write up of Dr Arathi P S, Managing Editor, in last issue of our newsletter, “We must develop people who know how to learn. That's the most important competency, underpinning a person's ability and agility to adapt to fast changing contexts of the 21st century”. Future cannot be predicted accurately and it need not be always as per our expectations and planning. This has necessitated all of us to plan a new way of learning and understanding.

There was a time in the past that only some qualified students, after a dedicated learning and practice for years in presence of the preceptor, became practitioners and experts in their area of specialty. Now due to the nationwide lockdown in wake of COVID -19 pandemic, we had to switch on to online classes in order to ensure continuation of learning as per the directions of higher authorities. But it cannot be an alternative method of learning to preferred conventional offline live classroom classes, because the report of National Sample Survey Office 2017-18 says, internet facility in India stands at 23.8% total population, out of which 14.9% in rural areas and 42% in urban areas. If this pandemic is not going to be

eradicated at the earliest, we have to make the internet facility reachable to all corners and all the citizens at the affordable price. Telecom network companies and streaming companies have a great role to play in this venture.

Let us go through some of observations made during these two months period of online classes and also some suggestions. Online classes are convenient in terms of time table and flexibility. The learning process is going on in home atmosphere with relaxed mind. In this learning process total family is involved. The platforms of online learning should be user friendly and cost effective. Those platforms are to be understood to the fullest of their capacity by both teachers and students and be used optimally as per the need. Duration and timings of classes should be comfortable for both the students and the teacher. It is always better to record the class and make it available online or offline for further use thereafter. Teachers have to develop skills of presentation and interaction and should encourage students to participate in open discussions. As students are in their homes with their parents, parents have an increased responsibility in online learning system as only they can control and monitor the students physically. Compared to live offline classroom classes, online classes are time consuming. If students are not self motivated in learning, there is possibility for delinquency. So Tutorial System along with efforts of Student Support and Guidance Program (SSGP), Academic Monitoring Cell, subject teachers and parents can contribute in welfare of such students. Even the internet facility will be misused by the wards if they are not properly observed by parents and guardians. Parents complain that they are unable to control their wards as their families are nuclear in nature and the children are grown and precious for them. If proper

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support is not provided by teachers and parents, poor students may not be able to follow the lessons and it may result in losing interest in the course itself. If good family relations are not there, those students may feel loneliness and it may reflect in their studies. The personnel differences among the faculties may hamper the needed co-operation and co-ordination among them. As the Head of Institution, faculties and students are not in direct contact, there may be some problems in coordinating and monitoring online classes. This can be avoided by frequent interactions through online meeting platform among the HoI, faculties and representatives of the College Student Union. The PTA executive committee can play a pivotal role in coordinating the efforts of all the parents and the faculties. All professional courses have practicals and through online classes it is not possible to impart the practical classes. So as soon as live classroom classes are resumed, those practical classes without much burden on students are to be conducted. In this

process Governments can encourage the institutions, teachers and students by free data packages. A common platform of online learning through out the university or throughout the course can be made available by the authorities. The potential of Doordarshan, All India Radio and other community radios can be utilized by broadcasting lessons and guest lectures which is very much reachable both the urban and rural community.

In flow of never ending time, we may have to face different situations, some tough and some easy. All these are nothing but the results of ones deeds or the deeds of a group of people. We have to learn from our mistakes and go forward with determined enthusiasm in the righteous path. Victory is always ours.

Tejasvi naavadheetamastu maa vidvishaavahai/

Om s'aanti s'aanti s'aanti.

Dr. G. Nagabhushanam
Chief Editor

DEPARTMENT OF DRAVYAGUN'A VIJNAANA

Raasna - A Magical Drug

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Introduction

According to Bhaavaprakaas'a Nighan't'u shape of the leaves of the drug resembles the shape of the tongue. According to Caraka Samhita it is the best drug for curing vaata disorders. The various synonyms of Raasna are Yuktarasa, Elaparn'i, S'reyasi, Sugandha, Surasa and Rasa. Raasna is heavy in nature, bitter in taste, hot in potency. It helps to stimulate fire and used to cure inflammation, asthma, gout, pain, fever cough and digestive disorders.

According to Caraka Samhita Raasna is the Agrya dravya of Vaataroga. Raasna is a controversial drug. Almost 10 medicinal plants are mentioned as Raasna in different parts of our country.

Controversial plants are:

- | | |
|---------------------------------------|-------------------|
| 1. Vanda tessellata | -Orchidaceae |
| 2. Alpinia galanga, Alpinia calcarata | -Zingiberaceae |
| 3. Pluchea lanceolata | -Asteraceae |
| 4. Viscum album | -Loranthaceae |
| 5. Withania coagulens | -Solanaceae |
| 6. Aristolochia indica | -Aristolochiaceae |
| 7. Inula racemosa | -Asteraceae |
| 8. Rauwolfia serpentina | -Apocyanaceae |

9. Lochnera rosea -Apocyanaceae

10. Enicostemma littorale -Gentianaceae

Among these 10 drugs Alpinia galanga and calcarata are growing in our vicinity and now I am describing these 2 drugs in this context.

According to Bhaavaprakaas'a Nighan't'u the shape of the leaves resembles the shape of the tongue and this simile is most suited for Alpinia calcarata.

The various synonyms of Raasna are:

Yuktarasa, Elaparn'i, S'reyasi, Sugandha, Surasa etc. Raasna is having guru gun'a, tikta rasa, and ushn'a veerya. It helps to stimulate agni and effective in s'opha, tamaka s'vaasa, s'oola, jvara and udara vikaara.

Botanical identity

Alpinia galanga - Zingiberaceae

Alpinia calcarata - Zingiberaceae

Vernacular Names

English - Greater galangal, Thai ginger

Hindi. - Kulinjan

Malayalam - Chitta arattha, Arattha

Marathi. - Kosht Kulinjan

Tamil. - Arattai

Kannada - Dhumarasmī



Botanical description

Habitat - *Alpinia galanga* is basically native to Indonesia and South Asia. In India it is distributed in Bihar, Assam, West Bengal and Himalayas. *Alpinia calcarata* is a plant native to India. It is distributed in all districts of Kerala.

Alpinia galanga

Perennial herbaceous plant that attains a maximum height of 3-4m. Leaves are long and broad at the base and narrow at the tips and are dark green in colour. Inflorescence is Panicle. Flowers are numerous, calyx tube is funnel shaped 6-8mm long, corolla segments 1-3cm long. Corolla lip is 2.5 -4 cm long, ovate-oblong, Sessile, yellow in color, streaked with purple veins. Fruit is capsule, globose and red on ripening. Rhizomes are reddish brown externally and light orange brown internally and are having characteristic odour. Rhizomes are about 2-8 cm in length and 2 cm in thickness. Rhizome is irregularly branched and marked with fine annulations. On breaking rhizome become fibrous.



Alpinia calcarata

The plant is having leafy stem 1-1.5m. Leaves are sessile, linear-lanceolate, narrowed towards base, acuminate tip, margin with short bristles, tip shortly bifid, margin ciliate, Inflorescence terminal 10-15 cm long. Lower 4 flowered, upper 2 flowered. Flowers shortly pedicellate, Calyx tubular 0.8-1cm long, pubescent. Corolla tube almost equal to the calyx. Pubescent Lobes are oblong. Tip is emarginated, variegated with dark purple and yellow. Stamens 2cm long. Another 8 mm long. Style slightly projected above the. Stigma rounded with ciliate opening. Ovary densely pubescent, trilobular with many ovules. Fruit is globose, pubescent orange red. Seeds are many.



Pharmacological properties

Rakta s'odhaka -It is a very effective drug to fight against impurities of blood.

Anulomaka -It helps to pacify aggravated vaata dosha in the body. It is beneficial for treating various types of vaata disorders.

Aamapaacaka-It helps to neutralize the harmful effects of extra accumulated HCl in the gut. It helps to stimulate digestion and also help to treat sore mouth and belching.

Svedaka -It helps to open the blocked sweat pores of the body and helps to stimulate the process of sweating.

Antifungal -This drug fights against various fungi responsible for causing fungal infection of the skin.

Anti diabetic-This drug helps to reduce the raised level of blood sugar in body and help to maintain the proper secretion of insulin in the body.

Antioxidant-This drug helps to fight against free radicals.

Therapeutic indication

Vaata vyaadhi, Kaasa, S'vaasa, s'oola, jvara, sidhma, agnimaandya, s'opha.



Therapeutic uses:

·In Vaatavyaadhi -Raasna coorn'a or decoction is useful and best.

·In Vaatarakta - Decoction prepared from Raasna, Gud'ooci and Aaragvadha is taken with Erand'a taila

·In Aamavaata -Decoction prepared from Raasna, Gud'ooci, Erand'a, Devadaaru and S'un't'hi is very effective in case of Aamavaata affecting joints and bones.

Important formulations

Some important formulations of Raasna are:

Raasnaadi Kashaaya, Mahaaraasnaadi Kashaaya, Raasnerand'aadi Kashaaya, Raasnaasaptaka Kashaaya, Raasnaapan'caka Kashaaya, Das'amoolaraasnaadi Kashaaya, Raasnaadi coorn'a, Raasnaadasa'moola ghr'tam

Conclusion

Raasna is a controversial drug. Almost 10 drugs are included under this. Many more research works related to the therapeutic efficacy of each controversial drug will create a miraculous effect in the therapeutic usage of Raasna in the future. I conclude my topic with morphological characters and therapeutic properties of only two controversial drugs of Raasna. We can hope more research works related to the therapeutic usage of Raasna in the future.

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Cryopreservation: Boon For Biodiversity Conservation

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Cryopreservation is a part of biotechnology. The term cryopreservation refers to the storage of cells or tissues in liquid nitrogen at an ultra-low temperature(-196oc). Biotechnology plays an important role in International plant conservation programs and in preservation of world's genetic resources (Bajaj et.al 1995). Advances in biotechnology provide new methods for plant genetic resources and evaluation. Cryopreservation developed during last 25 years, is an important and most valuable method for long term conservation of biological materials. The main advantages of cryopreservation are simplicity and applicability to a wide range of genotypes.

Conventional methods of germplasm preservation like sun dried of seeds, crowdung coated and dried seeds etc. are prone to loss because

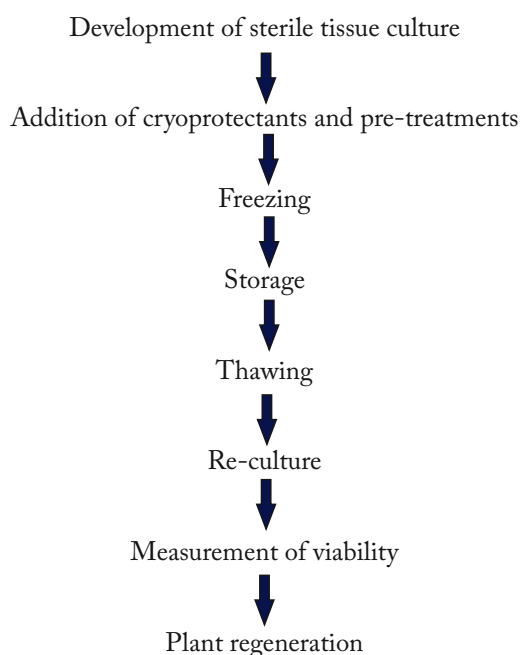
- # Attack by pest and pathogens
- # Climate change
- # Natural disasters
- # Economic causes

Mechanism Of Cryopreservation:

The technique of cryopreservation is based on the transfer of water present in the cells from liquid form to solid form. Due to the presence of salts and organic molecules in the cells, the cell water requires much more lower temperature to freeze (i.e., -68 0 c or above) compared to the freezing point of pure water.

TECHNIQUE OF CRYOPRESERVATION:

The process of cryopreservation has the following steps



1. Development of sterile culture:

Select any tissue part from the plant (i.e. ovules, seeds embryo, protoplasm etc.) with reference to morphological and physiological characters because these characters largely influence the viability in cryopreservation.

2. Addition of cryoprotectants and pre-treatment:

Cryoprotectants are the compounds which prevent damage to the cells while freezing. The freezing and ultra-cooling point of water in the cells are reduced in the presence of cryoprotectants. The popular cryoprotectants are dimethyl sulfoxide, glycerol, sucrose, ethylene, propylene, mannose, glucose etc. Generally, a mixture of cryoprotectants instead of one is used for more effective cryopreservation.

3. Freezing:

The sensitivity of the cell to low temperature is different and that particularly depends on the species of plant. Four different freezing methods are used. They are,

a) Slow freezing method:

The plant material selected for cryopreservation is slowly frozen at a slow cooling rate of 0.5- 5oc /min from 0 to -100oc and then transfer to liquid nitrogen. This method promotes extracellular ice formation rather than intracellular freezing. Because of this the plant cells are partially dehydrated, and it will show better survival rate.

b) Rapid freezing method:

This is a simple method in which the plant material directly exposes to liquid nitrogen. In this method the fast freezing occurs i.e. -3000c to -1000oc/minute. It accelerates the formation of intracellular ice crystal and more chances for cell damage.

c) Stepwise freezing method:

The slow freezing method and rapid freezing method are combined and used in a stepwise manner. The plant material is first cooled to an intermediate temperature, then rapidly cooled and fixed to the temperature of liquid nitrogen.

d) Dry freezing method:

Nongerminated dry seeds can survive freezing at low temperature than the wet seeds.

4. Storage:

Maintenance of frozen cultures at a specific temperature is very important. The frozen cells are kept for storage at a range of -700c to -1960c. Storage is ideally done in liquid nitrogen refrigerator at -150oc in vapour phase or -196oc in liquid phase. The objective of storage is to stop all the metabolic activities in the plant material and maintain its viability. While storage we should document the



following details in every cryopreservation specimen.

- Ø Taxonomic classification of plant material.
- Ø History of culture.
- Ø Morphogenic potential.
- Ø Genetic manipulation done
- Ø Soma clonal variation.
- Ø Culture medium
- Ø Growth kinetics.

5. Thawing (Melting of ice):

Thawing is usually carried out by exposing the frozen sample to warm water (37oc to 45oc). This rapid thawing will protect the cells from damaging by ice crystal formation. When thawing complete the seeds should be quickly transferred to warm water with temperature 20-25o c. This transfer is necessary because the cells get damaged if left for long time in 37-45oc.

6. Reculture:

Thawed germplasm is washed several times to remove cryoprotectants. The plant material is recultured in a fresh medium following standard procedure.

7. Measurement of viability:

The viability of frozen cells can be measured at any stage of cryopreservation or after thawing or reculture.

8. Plant regeneration:

The ultimate purpose of cryopreservation of germplasm is to regenerate a desired healthy plant. In addition to certain growth promoting substances, maintenance of appropriate environmental conditions is often necessary for successful plant regeneration.

Advantages Of Cryopreservation Of Germplasm

- Maintenance of stock culture.
- Cryopreservation is an ideal method for long term conservation of biodiversity.
- Disease free plant materials can be frozen and propagated whenever needed.
- Conservation of soma clonal and gamatoclonal variations in culture.
- Plant materials from endangered species can be conserved.
- Conservation of pollen for enhancing longevity.
- Rare germplasm developed through somatic hybridization and other genetic manipulation can be stored.
- Establishment of germplasm banks for exchange of information at

the international level.

Limitations Of Cryopreservation:

- Formation of ice crystals inside the cells may lead to cell damage.
- High intracellular concentration of solutes may damage the cells.
- Some solute from the cell may leak out during freezing which may cause cell shrinkage.
- Expensive equipment and shortage of trained personnel.

National gene bank for medicinal and aromatic plants at Tropical Botanic Garden and Research Institute (TBGRI), Palode, Trivandrum is one among the four (CIMAP-Lucknow, NBPGR-New Delhi and RRL-Jammu) having the facility for conserving medicinal and aromatic plants (MAPs) of India through biotechnological methods including collection, ex-situ conservation and characterization of the precious taxa that are rare, endangered, threatened, endemic, vulnerable or over exploited. TBGRI has significantly developed cryopreservation protocol on rare and endangered plants of India. A cryo-bank was also established which now holds more than 25 species of medicinal and aromatic plants.

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Sanskrit Alphabets with English Transliteration Key

अ	आ	इ	ई	उ	ऊ
a	aa	i	ee	u	oo
		ए	ऐ	ओ	औ
		e	ai	o	au
ऋ	ॠ	ऌ		ं	अः
r'	rr'	l'		m	h
क	ख	ग	घ	ङ	
ka	kha	ga	gha	n~	
च	छ	ज	झ	ञ	
ca	cha	ja	jha	n`a	
ट	ठ	ड	ढ	ण	
t'a	t'ha	d'a	d'ha	n'a	
त	थ	द	ध	न	
ta	tha	da	dha	na	
प	फ	ब	भ	म	
pa	pha	ba	bha	ma	
य	र	ल	व		
ya	ra	la	va		
श	ष	स	ह		क्ष ज्ञ
s'a	sha	sa	ha		ksha jna

Medical Bulletin

Health Ministry revised home isolation policy for Covid-19 patients

During the containment phase the patients should be clinically assigned as very mild/mild, moderate or severe and accordingly admitted to (i)



COVID Care Center, (ii) Dedicated COVID Health Center or (iii) Dedicated COVID Hospital respectively. Guidelines for home isolation of very mild/pre-symptomatic patients were issued on 27th April 2020 and revised in 10th May 2020.

Very mild/pre-symptomatic patients having the requisite facility at residence for self-isolation will have the option for home isolation. A care giver should be available to provide care on 24 x7 basis. Communication link between the caregiver and hospital is a prerequisite for the entire duration of home isolation. The care giver and all close contacts of such cases should take Hydroxychloroquine prophylaxis as per protocol.

The patient shall agree to monitor his health and regularly inform his health status to the District Surveillance Officer for further follow up by the surveillance teams. Patient under home isolation will end home isolation after 17 days of onset of symptoms (or date of sampling, for pre-symptomatic cases) and no fever for 10 days. There is no need for testing after the home isolation period is over.

Events

Contribution to PM CARES FUND

In order to support the Central Government initiatives aimed at strengthening the fight against Covid 19, making available quality health care facilities to the patients, containment efforts and relief efforts against the coronavirus outbreak in the country, the entire Staff of Santhigiri Ayurveda Medical College and Hospital, Palakkad contributed to the Prime Minister's Citizen Assistance & Relief in Emergency Situations Fund.

SAMCH functioning as Covid Quarantine Care Centre

Santhigiri Ayurveda Medical College Hospital became a part in the fight against Covid 19 as the hospital was converted into Covid Care quarantine Centre under Kodumbu Grama Panchayat and started functioning with effect from 8th May. People advised institutional quarantine were admitted in the hospital and utmost care was taken for proper sanitation, safety, facilities and social distancing.

Resource Persons in PAMPA Resolute 2020

PAMPA RESOLUTE 2020 is a web based program organised by "Private Ayurveda Medical Practitioners Association" aimed for the Ayurvedic community to bring a source of continuous learning.

Dr. Nagabhushanam, Principal, Santhigiri Ayurveda Medical College, gave a lecture on the subject "Guidelines on Psychiatry in General Practice" for the online webinar series on 9/5/2020.

Dr. Veena P Raghunathan, Asst. Professor, Department of Basic Principles - gave a lecture on the subject "Relation between Ayurveda and Geopathic stress with special reference to Vasthu" for the online webinar series on 21/4/2020.

"Santhigiri Ayurveda Medical College & Hospital salutes the Corona Warriors all over the world for their dedicated services"

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