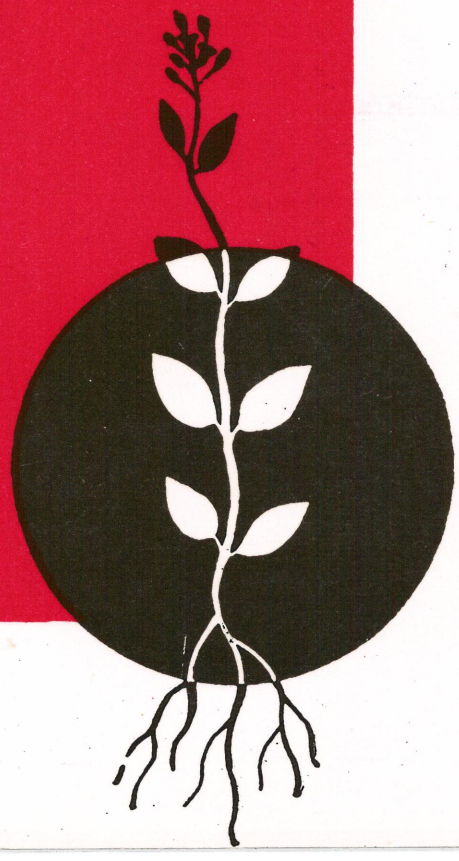
ISSN 0970- 4086

Vol.XIV, No.1
August - October 2000

āryavaidyan



āryavaidyan

A Quarterly Journal of the Arya Vaidya Sala, Kottakkal

āryavaidyan

Aryavaidyan is an international Journal for the encouragement and elucidation of the most ancient system of medicine, Ayurveda and its contemporary practice. This quarterly of the Arya Vaidya Sala, Kottakkal, is a publication entirely devoted to the cause of Ayurveda and allied subjects such as ethnomedicine, naturopathy, siddha, unani and modern medicines. This is the one and only periodical for scholars, practising physicians, students and lovers of the subject.

Vol.XIV, No.1 Regn. No. 55127/87 August - October 2000

HINDI

āryavaidyan

सततांध्ययनं, वादः परतन्त्रावलोकनम् ।
तद्विद्याचार्यसेवा च बुद्धिमेधाकरो गणः ।।

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Arya Vaidya Sala,
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Proposed Biological Diversity Bill 2000 needs public discussion and subsequent retailoring

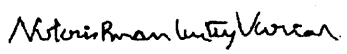
There is no doubt or questioning regarding the relevance of timely enactment in a country with progressive aims to reform the set up of institutions, the ways of life, pertaining to any aspect of life, social, political, economic, cultural and others. In our country, which for centuries had been forced to lay dormant due to the arrested growth of culture in the middle times and being under the mastery of unsympathetic foreign rule, the need of such enactments to bring us to be in line with the advancing world is more. But the laws to help and promote our progress are to be introduced with caution since we have specific problem here. We are in need of clear vision to do away the lingering confusion in our minds, bred in the light of colonial times. And the laws that we promulgate should be capable to help us to unfetter the still remaining shackles that kept us in backwardness under foreign domination and for opening ways and means for all round progress. We are forced to reckon the reality that although we have passed through half a century of freedom days, complete freedom from our slavish aspects is not yet achieved practically. On the contrary, the fear of foreign interference at all fields of our natural resources and faculties have only gone up. So we are one with those who feel the urgency of introducing regulations that protect our natural wealth from encroachment of outsiders and destructive operations by foreigners or natives that lead to extinction or abuse by illegal forages. We are aware of the irreparable loss we have already sustained, due to lack of prompt actions because of our negligence caused by ignorance or lethargy. In these contexts, when we came to know of the proposal of a bill, to be introduced in the next parliamentary session titled "Biological Diversity-2000" we were happy and felt obliged to pen words of thanks and congratulations. But on going through the clauses of the bill and the way in which the wordings are framed we are tended to a hold back since we are afraid that in the present form it is more creative of confusion and apprehension regarding the benefit of the bill. It is pointed out that the clauses claimed to be intended to protect indigenous drugs and practices from foreign and illegal exploitations have flaws which may be lead to misleading interpretations that do harm to the indigenous system also and to stifling the progress of our native practice and native manufacturing industry alike. For instance, the restrictions imposed on transactions of ayurvedic raw drugs even inside India, enforcing separate sanction from each

and every locally administered area, may practically lead to non-availability of essential drugs. Similarly, the ambiguity in designating indigenous medical practitioners from outside agents is pointed out as another source of confusion and field for controversy.

So, we are sorry to say that instead of expressing congratulatory responses at the present stage what we are obliged to take as our duty is to raise alarm to catch the immediate attention of the framers of this bill to see that it is retailored so that clarity is maintained and confusion avoided.

We take liberty to raise this question here, not simply because we alone are pressed by the misgivings but that we have lately found ourselves as recipients of letters, communications and memoirs of various organisations and manufacturers and individuals exhorting us to raise a thorough discussion on the body of the bill, in which participation of parliament and assembly members, important influential individuals and organisations is assured.

Meanwhile, we hope, that such discussions will be conducted urgently, by the individuals and associations and pressure to make proper amendments will be raised by the concerned without delay.



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FROM THE PAGES OF VAGBHATA - LII

Varier, N.V.K.

Abstract: Discussion on *vasti* continues. In this chapter, further details like management of complications, combination of *dravya*s used in *vasti* (according to *dosha* predominance), certain famous classical grouping of *nirooha* and *anuvasana* are discussed.

अतिरौक्ष्यादनागच्छन्न चेज्जाड्यादिदोषकृत् ।
उपेक्षेतैव हि ततोऽध्युषितश्च निशां पिबेत् ॥ ३२
प्रातर्नागरधान्याम्भः कोष्णं केवलमेव वा ।

(*Atiraukshyadanagaccha-*
nna chejjadyadidoshakrit ।
upekshetaiva hi tato-
ऽdhyushitascha nisam pibet ॥ 32 ॥
Pratarnagaradhanyambhah
koshnam kevalameva va ।)

If *snehavasti* administered has not come back due to severe dryness of the *koshtha* (we can assume it is being absorbed), and at the same time if it does not create troubles like inertness, lassitude, etc., then the process to expel the *sneha* is neglected i.e. the *sneha* may be allowed to remain inside. After allowing to remain there overnight, in the next morning he is given hot water or water boiled with dry ginger and coriander.

अन्वासयेत्तृतीयेऽह्नि पञ्चमे वा पुनश्च तम् ॥ ३३ ॥
यथा वा स्नेहपक्तिः स्यादतोऽत्युल्बणमारुतान् ।
व्यायामनित्यान् दीप्ताग्नीन् रूक्षांश्च
प्रतिवासरम् ॥ ३४ ॥

(*anvasayettriteeye*ऽ*hni*
panchame va punascha tam ॥ 33 ॥
Yatha va snehapaktih syad-
*ato*ऽ *tyulbanamarutan* ।
vyayamanityan deeptagneen
rookshamscha prativasaram ॥ 34 ॥)

Then give *anuvasana* again on the third day or on the fifth day or when the symptoms of proper digestion of the *sneha* are shown. Those who are with a profound excess of *vata*, who exercise daily or who are with strong digestive fire or who are with dry bodies can have *anuvasana* daily.

इति स्नेहैस्त्रिचतुरैः स्निग्धे स्रोतोविशुद्धये ।
निरूहं शोधनं युञ्ज्यादस्निग्धे स्नेहनं तनोः ॥ ३५ ॥

(*Iti snehaistrichaturaih*
snigdhe srotovisuddhaye ।
nirooham sodhanam yunjyad-
asnigdhe snehanam tanoh ॥ 35 ॥)

After making him properly lubricated with three or four *anuvasanas*, administer a purificatory *kashayavasti* for cleansing the *srotas*es. If the body is not properly lubricated give *nirooha* that can make the body sufficiently unctuous.

पञ्चमेऽथ तृतीये वा दिवसे साधके शुभे ।
मध्याह्ने किञ्चिदावृत्ते प्रयुक्ते बलिमङ्गळे ॥ ३६ ॥
अभ्यक्तस्वेदितोत्सृष्टमलं नातिबुभुक्षितम् ।
अवेक्ष्य पुरुषं दोषभेषजादीनि चादरात् ॥ ३७ ॥
वस्तिं प्रकल्पयेद्वैद्यस्तद्विद्यैर्बहुभिः सह ।

(*Panchame5 tha triteeye va*
divase sadhake subhe ।
maddhyahne kinchidavritte
prayukte balimangale ॥ 36 ॥
Abhyaktasveditotsrishta-
malam natibubhukshitam ।
avekshya purusham dosha-
bheshajadeeni chadarat ॥ 37 ॥
Vastim prakalpayedvaidya-
stadvidyairbahubhih saha ।)

Then, on the fifth or the third day, the auspicious day fit for attaining the purpose (as per astrology), when a portion of the midday is already passed, having performed the auspicious *bali* rites, *abhyanga* and *svedana* are done. Then attend to the calls of nature, if any. The patient should not be too hungry. After observing all conditions of the patient, as the *doshas* (*dooshyas*, *satmyas*), strength, etc. with due care, the patient is to be taken for *nirooha* by the physician in consultation with other experts.

After the final *anuvasana* either on the fifth day or if seems appropriate, on the third day itself, *nirooha* can be administered. Special care is to be taken when *nirooha* is administered, since, if not done in the proper way, it may create complications. So *acharyas* advise to perform these acts only in the presence of experts who can advise and give appropriate emergency remedies. The right time for *nirooha*, is just after the first one third of the middle part of the day has already passed. The patient should not be too hungry, (since the time usually may be after 10 am or about 11 am) he is allowed to have a very light refreshing breakfast (not at all heavy) since *niroohas* are not to be taken after food. The appropriate drugs for *vasti* are selected in consultation with other physicians having carefully studied the particular features of the patient, the condition of *doshas*, *dooshya*, *bala*, *kala*, digestive capacity, age, *satva*, *satmya* and everything related to the patient.

क्काथयेद्विंशतिपलं द्रव्यस्याष्टौ फलानि च ॥ ३८ ॥
ततः क्काथाच्चतुर्थांशं स्नेहं वाते प्रकल्पयेत् ।
पित्ते स्वस्थे च षष्ठांशमष्टमांशं कफेऽधिके ॥ ३९ ॥
सर्वत्र चाष्टमं भागं कल्काद्भवति वा यथा ।
नात्यच्छसान्द्रता वस्तेः पलमात्रं गुडस्य च ॥ ४० ॥
मधुपट्वादिशेषं च युक्त्या -

(*kvathayetvimsatipalam*
dravyasyashtau phalani cha ॥ 38 ॥
Tatah kvathacchaturthamsam
sneham vate prakalpayet ।
pitte svasthe cha shashtamsa-
mashtamamsam kaphe5 dhike ॥ 39 ॥
Sarvatra chashtamam bhagam
kalkadbhavati va yatha ।
natyacchasandrata vasteh
palamatram gudasya cha ॥ 40 ॥
Madhupatvadisesham cha yuktya –)

The preparation of *vasti drava*:

Prepare *kvatha* as per rules with twenty *palas** of *dravya* and eight *madana* [*Catunaregum spinosa* (Thunb.) Trivengadum] fruits. In the case of *vata* predominance the quantity of *sneha* suggested (to be added) is one fourth of the *kvatha*. In the case of *pitta* and *svastha* the quantity of *sneha* to be added is 1/6 of *kashaya* and in *kapha* predominance, 1/8 part is suggested. In all cases, the 1/8 part of the quantity is to be *kalka*. The preparation should look neither too transparent nor too dense. The quantity of *guda* (jaggery) is one *pala*. Other additives such as honey, rock salt, etc. are to be added as per discretion.

The decoction is prepared as usual with sixteen parts of water and reduced to one fourth. In this decoction pour the *sneha* as per the quantity mentioned in *dosha* predominance. The quantity of *kalka* (pasted drugs) is always 1/8 part of the *kvatha*. Then add *guda* (molasses) one *pala* and other additives as honey and rock salt in the appropriate quantity.

- सर्वं तदेकतः ।
उष्णाम्बुकुम्भीबाष्पेण तप्तं खजसमाहतम् ॥ ४१ ॥
प्रक्षिप्य वस्तौ प्रणयेत्पायौ नात्युष्णशीतळम् ।
नातिस्निग्धं न वा रूक्षं नातितीक्ष्णं न
वा मृदु ॥ ४२ ॥
नात्यच्छसान्द्रं नो नातिमात्रं नापटु नाति च ।
लवणं तद्वदम्ळं च -

(-*sarvam tadekatah* ।
usnambukumbheebashpena
taptam khajasamahatam ॥ 41 ॥
Prakshipya vastau pranayet-
payau natyushna seetalam ।
natisnigdham na va rooksham
natiteekshnam na va mridu ॥ 42 ॥
Natyacchasandram no
natimatram napatu nati cha ।
lavanam tadvadamlam cha -)

All these are then mixed together and heated in a water-bath. The *vastidrava* is then churned well and filled in the *vasti* (the enema bag). This is then pushed into the rectum.

The *vasti drava* should have the following qualities.

a) It should not be too hot or too cold.
b) It should not be too unctuous or too dry.
c) It should not be too *teekshna* or too *mridu*.
d) It should not be too thick or too thin.
e) The quantity should not be too much or too less.
f) It should not be too salty or too sour.

- पठन्त्यन्ये तु तद्विदः ॥ ४३ ॥
मात्रां त्रिपलिकां कुर्यात्स्नेहमाक्षिकयोः पृथक् ।
कर्षार्द्धं माणिमन्थस्य स्वस्थे कल्कपलद्वयम् ॥ ४४ ॥
सर्वद्रवाणां शेषाणां पलानि दश कल्पयेत् ।

(- *pathantyanye tu tadvidah* ॥ 43 ॥
Matram tripalikam kuryat-
snehamakshikayoh prithak ।
karshardham manimanthasya
svasthe kalkapaladvayam ॥ 44 ॥
Sarvadravanam seshanam
palani dasa kalpayet ।)

Other experts in this field, suggest taking *sneha* and *makshika* three *palas* each and

*1 *Pala* = 48.5 gm

saindhava, half *karsha* (⅛ *pala*). The *kalka* should be two *palas* and the all other ingredients put together to become a quantity of ten *palas*.

माक्षिकं लवणं स्नेहं कल्कं
क्वाथमिति क्रमात् ॥ ४५ ॥
आवपेत निरूहाणामेष संयोजने विधिः ।

(*makshikam lavanam sneham*
kalkam kvathamiti kramat ॥ 45 ॥
Avapeta niroohanam-
esha samyojane vidhih ।)

Makshikam (honey), *saindhavam* (rock salt), *sneham* (unctuous liquid), *kalkam* (paste) and *kvatham* (decoction) are to be mixed one after the another in succession. This is the method recommended for the mixing of materials for *nirooha*.

उत्तानो दत्तमात्रे तु निरूहे तन्मना भवेत् ॥ ४६ ॥
कृतोपधानः सञ्जातवेगश्चोत्कटकः सृजेत् ।

(*uttano dattamatre tu*
niroohe tanmana bhavet ॥ 46 ॥
Kritopadhanah sanjata-
vegacchotkatakah srijet ।)

After administering the *nirooha*, the patient is to lie in the supine position with a pillow placed under his head, mentally intent on the action of the *nirooha*. And when the urges (*vegas*) are coming discharge the faeces in squatting position.

आगतौ परमः कालो मुहूर्त्तो मृत्यवे परम् ॥ ४७ ॥
तत्रानुलोमिकं स्नेहक्षारमूत्राम्लकल्पितम् ।
त्वरितं स्निग्धतीक्ष्णोष्णं वस्तिमन्यं
प्रपीडयेत् ॥ ४८ ॥
विदध्यात्फलवर्तिं वा स्वेदनोत्त्रासनादि च ।

(*agatau paramah kalo*
muhoortto mrityave param ॥ 47 ॥
Tatranulomikam sneha-
kshara mootramlakalpitam ।
tvaritam snigdhateekshnoshnam
vastimanyam prapeedayet ॥ 48 ॥
Vidadhyatphalavartim va
svedanottrasanadi cha ।)

The maximum time limit for return of the *niroohadravya* is one *muhoortta**. After that time, it creates troubles, which leads to death. So another *vasti*, which is unctuous, acute and hot, prepared with *sneha*, *kshara* (alkali), *mootra* (urine) and sour substances which creates *anuloma* action (proper course of *vata* movement) is to be administered immediately. Or *phalavartti*** (rectal suppository prepared with *madana* fruits) should be inserted. Sudation therapy and frightening should also be advocated.

स्वयमेव निवृत्ते तु द्वितीयो वस्तिरिष्यते ॥ ४९ ॥
तृतीयोऽपि चतुर्थोऽपि यावद्वा सुनिरूढता ।

(*svayameva nivritte tu*
dviteeyo vastirishyate ॥ 49 ॥
Triteeyo5pi chaturtho5pi
yavadva suniroodhata

If the *niroohadravya* comes out on its own, a second, third, fourth or more *nirooha* can be employed until he gets proper symptoms

* 1 *muhoortta* = 48 minutes.
** The method of preparation of *phalavartti* is explained in the context of the treatment for piles.

agreeing to the state of a well-accomplished *niroohavasti*.

विरिक्तवच्च योगादीन्विद्यात्
योगे तु भोजयेत् ॥ ५० ॥
कोष्णेन वारिणा स्नातं तनुधन्वरसौदनम् ।

(*viriktavacca yogadeen-*
vidyat yoge tu bhojayet ॥ 50 ॥
Koshnena varina snatam
tanudhanvarasaudanam ।)

The symptoms of proper state of *niroohа* therapy are similar to those of the purgation therapy. In *samyakyoga* (proper state), after giving bath with warm water feed him with cooked rice along with meat soup of *jamgala* animals (as *mriga* - grazing animals like deer etc., *vishkira* - birds like cock and *pratuda* - birds like cuckoo).

विकारा ये निरूढस्य भवन्ति प्रचलैर्मलैः ॥ ५१ ॥
ते सुखोष्णाम्बुसिक्तस्य यान्ति भुक्तवतः शमम् ।

(*vikara ye niroodhasya*
bhavanti prachalairmalaih ॥ 51 ॥
Te sukhoshnambusiktasya
yanti bhuktavatah samam ।)

The *vikaras* (troubles), caused by the moving *malas*, in one who has undergone *niroohа* therapy, are naturally abated by taking bath in lukewarm water and then taking food.

No other remedy is necessary for troubles that arise during the therapy since taking food after bath itself gives relief.

अथ वातार्दितं भूयः सद्य एवानुवासयेत् ॥ ५२ ॥
सम्यग्घीनातियोगाश्च तस्य स्युः स्नेहपीतवत् ।

(*atha vatarditam bhuyah*
sadya evanuvasayet ॥ 52 ॥
Samyaggheenatiyogascha
tasya syuh snehapeetavat ।)

After *niroohа*, the patient affected with *vata* is to be treated again with *anuvasana* immediately. The symptoms of proper, inadequate and excessive conditions (*samyak, heena* and *ati yoga*s) of *anuvasana*s are to be reckoned similar as in the cases of the intake of ghee (*snehapana*).

किञ्चित्कालं स्थितो यश्च सपुरीषो निवर्तते ॥ ५३ ॥
सानुलोमानिलः स्नेहस्तत्सिद्धमनुवासनम् ।

(*kinchitkalam sthito yascha*
sapúreesho nivartate ॥ 53 ॥
Sanulomanilah sneha-
statsiddhamanuvasanam ।)

The introduced *sneha*, after being retained there for a while, moved by *vayu* directed downward, if comes out with faeces in the normal order; it is the sign of the orderly-accomplished *anuvasana* therapy

एकं त्रीन् वा वलासे तु स्नेहवस्तीन्
प्रकल्पयेत् ॥ ५४ ॥
पञ्च वा सप्त वा पित्ते नवैकादश वाऽनिले ।
पुनस्ततोऽप्ययुग्मांस्तु पुनरास्थापनं ततः ॥ ५५ ॥
कफपित्तानिलेष्वन्नं यूषक्षीररसैः क्रमात् ।

(*ekam treen va valase tu*
snehavasteen prakalpayet ॥ 54 ॥
Pancha va sapta va pitte
navaikadasa vaऽnile ।
punastatoऽpyayugmamstu
punarasthapanam tatah ॥ 55 ॥

Kaphapittanileshvannam
yooshaksheerarasaih kramat ।)

In *valasa* (cases of *kapha* predominance) prescribe one to three *snehavastis*. In *pitta* cases five to seven and in *vata* cases nine to eleven *vastis* are to be prescribed. Or, if required, *snehavastis* are administered again on alternate days. And then give *niroohas*.

The diet that (suggested) for cases of *kapha, pitta* and *vata* be rice cooked respectively with vegetable soup, milk and meat soup.

In *kapha* cases, the diet is rice cooked with vegetable soup. In *pitta* cases, the diet is rice with milk. In *vata* cases the suitable diet is rice with meat soup.

वातघ्नौषधनिष्काथत्रिवृतासैन्धवैर्युतः ॥ ५६ ॥
वस्तिरेकोऽनिलेस्निग्धः स्वाद्वम्ळोष्णो रसान्वितः ।

(*vataghnaushadhanishkvatha-*
trivritasaindhavairyutah ॥ 56 ॥
Vastireko ऽ nile snigdhah
svadvamloshno rasanvitah ।)

In *vata*-predominant cases one *nirooha* prepared using *kashaya* of *vata*-mitigating drugs (like that of the *bhadradarvadigana, dasamoola*, or the two *balas*) is advised. *Trivrit* [*Operculina turpethum* (Linn.)] is used as *kalka. Saindhava, sneha,* sweet and sour liquids and *mamsa rasa* are added to this and warmed.

न्यग्रोधादिगणक्काथपद्मकादिसितायुतौ ॥ ५७ ॥
पित्ते स्वादुहिमौ साज्यक्षीरेक्षुरसमाक्षिकौ ।

(*nyagrodhadiganakvatha-*
patmakadisitayutau ॥ 57 ॥
pitte svaduhimau sajya-
ksheerekshurasamakshikau ।)

In cases of *pitta*, two enemas are done. The decoction is prepared with *nygrodhadi gana* drugs. Drugs of *padmakadi gana* (vide chapter 15) are used as *kalka*. The *nirooha* is made sweet and cool by adding sugar, ghee, milk, sugarcane juice and honey.

आरग्वधादिनिष्काथवत्सकादियुतास्त्रयः ॥ ५८ ।
रूक्षाः सक्षौद्रगोमूत्रास्तीक्ष्णोष्णकटुकाः कफे ।

(*aragvadhadinishkvatha-*
vatsakadiyutastrayah ॥ 58 ॥
Rookshah sakshaudragomootra-
steekshnoshnakatukah kaphe ।)

In predominance of *kapha*, three enemas are to be given. Decoctions are prepared with the *gana* of *aragvadhadi*. For *kalka, vatsakadi gana* (vide chapter 15) is used. Honey and cow's urine is also added. The *nirooha* should be acute (penetrating), dry, hot and acrid in taste.

त्रयस्ते सन्निपातेऽपि दोषान् घ्नन्ति
यतः क्रमात् ॥ ५९ ॥

(*trayaste sannipate ऽ pi*
doshan ghnanti yatah kramat ॥ 59 ॥)

In *sannipata* also these three *vastis* can eliminate all the three *doshas* one after the other.

त्रिभ्यः परं वस्तिमतो नेच्छन्त्यन्ये चिकित्सकाः ।
न हि दोषश्चतुर्थोऽस्ति पुनर्दीयेत यं प्रति ॥ ६० ॥

(*Tribhyah param vastimato*
necchantyanye chikitsakah ।
na hi doshaschaturtho ऽ sti
punardeeyeta yam prati ॥ 60 ॥)

Other physicians do not want any more than these three type *vastis* because they argue that since there is no fourth *dosha* to be met with where is the necessity of a fourth *nirooha*?

उत्क्लेशनं शुद्धिकरं दोषाणां शमनं क्रमात् ।
त्रिधैव कल्पयेद्वस्तिमित्यन्येऽपि प्रचक्षते ॥ ६१ ॥

(*Utklesanam suddhikaram*
doshanam samanam kramat ।
tridhaiva kalpayetvasti-
mityanye'pi prachakshate ॥ 61 ॥)

And there are others who hold that three kinds of decoction enemas are to be administered as one that excites the *dosha*s, the second one as that purifies and the third one as that pacifies the *dosha*s.

दोषौषधादिबलतः सर्वमेतत् प्रमाणयेत् ।
सम्यङ्निरूढलिङ्गं तु नासम्भाव्य निवर्तयेत् ॥ ६२ ॥

(*Doshaushadhadibalatah*
sarvametat pramanayet ।
samyangniroodhalingam tu
nasambhavya nivartayet ॥ 62 ॥)

According to the strength of the *dosha* and the drugs, these opinions are to be taken as *pramana*s (basic directions).

Administration of decoction enemas is not to be discontinued without attaining the symptoms described for proper administration of *nirooha*.

प्राक्स्नेह एकः पञ्चान्ते द्वादशास्थापनानि च ।
सान्वासनानि कर्मैवं वस्तयस्त्रिंशदीरिताः ॥ ६३ ॥

(*Praksneha ekah panchante*
dvadasasthapanani cha ।
sanvasanani karmaivam
vastayastrimsadeeritah ॥ 63 ॥)

Karmavasti

A course of thirty enemas with one *anuvasana* in the beginning and five *anuvasana*s at the end and twelve *anuvasana*s and twelve *niroohas* alternately in the middle is titled *karmavasti.*

कालः पञ्चदशैकोऽत्र प्राक् स्नेहोऽन्ते त्रयस्तथा ।
षट् पञ्चवस्त्यन्तरिता -

(*Kalah panchadasaiko'tra*
prak sneho'nte trayastatha ।
shat pancha vastyantaritah-)

Kalavasti

A course of fifteen enemas starting with one *anuvasana* and ending with three *anuvasana*s. In the middle six *niroohas* and five *anuvasana*s are given alternately. This is termed as a *kalavasti.*

- योगोऽष्टौ वस्तयोऽत्र तु ॥ ६४ ॥
त्रयो निरूहाः स्नेहाश्च स्नेहावाद्यन्तयोरुभौ ।

(- *yogo'shtau vastayo'tra tu* ॥ 64 ॥)
Trayo niroohah snehascha
snehavadyantayorubhau ।)

Yogavasti

A course of eight enemas, one *anuvasana* at the start and one at the end, with three *niroohas* and three *anuvasana*s alternately in the middle is named *yogavasti.*

स्नेहवस्तिं निरूहं वा नैकमेवातिशीलयेत् ॥ ६५ ॥
उत्क्लेशाग्निवधौ स्नेहान्निरूहान्मारुतो भयम् ।
तस्मान्निरूढः स्नेह्यः
स्यान्निरूह्यश्चानुवासितः ॥ ६६ ॥
स्नेहशोधनयुक्त्यैवं वस्तिकर्म त्रिदोषजित् ।

(*snehavastim nirooham va*
naikamevatiseelayet ॥ 65॥)

Utklesagnivadhau snehan-
niroohanmaruto bhayam ।
tasmanniroodhah snehyah syan-
niroohyaschanuvasitah ॥ 66 ॥
Snehasodhanayuktyaivam
vastikarma tridoshajit ।)

Do not administer *anuvasana*s or *niroohas* alone in more numbers. Repeated *snehavasti* alone creates oozing of *dosha*s and extinction of the digestive fire. *Nirooha* alone creates fear of *vata* provocation. Therefore those who have undergone *niroohas* are to be lubricated (by *snehavasti*). Those who have undergone *snehavasti* are to be treated with *nirooha*. Thus coordinating with unctuousness and purification, *vasti* works as conqueror of three *doshas*.

ह्रस्वया स्नेहपानस्य मात्रया योजितः समः ॥ ६७ ॥
मात्रावस्तिः स्मृतः -

(*hrasvaya snehapanasya*
matraya yojitah samah ॥ 67 ॥
Matravastih smritah –)

Matravasti

The enema administered with the quantity of *sneha* equal to the minimum dose of *snehapana* is known as *matravasti.*

- स्नेहशीलनीयः सदा च सः ।
बालवृद्धाध्वभारस्त्रीव्यायामासक्तचिन्तकैः ॥ ६८ ॥
वातभग्नाबलाल्पाग्निनृपेश्वरसुखात्मभिः ।
दोषघ्नो निष्परीहारो बल्यः सृष्टमल सुखः ॥ ६९ ॥

(*-snehah*
seelaneeyah sada cha sah ।
balavriddhadhvabharastree-
vyayamasaktachintakaih ॥ 68 ॥)
Vatabhagnabalalpagni-
nripesvarasukhatmabhih ।
doshaghno nishpareeharo
balyah srishtamalah sukhah ॥ 69 ॥)

It is to be resorted to for daily use by children and aged, those who are habituated to long walk, those who have to carry heavy loads, those who indulge in women and excessive exercises, those who are prone to over-thinking, those who are with *vata* diseases, with fractures, those who are weak in strength, those with poor digestive capacity, by those who cannot tolerate much sufferings as kings and lords and those who are always seekers of pleasurely living. It conquers *doshas*. Restricted regimen is not necessary. *Matravasti* promotes strength, eliminates the wastes as faeces, urine, etc., by proper discharge and creates happiness.

Aryavaidyan Vol. XIV, No.1, Aug. - Oct. - 2000, Pages 13 - 27

PHARMACOGNOSTICAL STUDIES ON *BHOOMICHAMPAKA* [*KAEMPFERIA ROTUNDA* LINN.]

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Abstract: This paper based on pharmacognostic studies, chemical studies and propagation technology of *Kaempferia rotunda* Linn. will be useful in detecting the correct drug from its possible adulterants – one of the serious problems facing ayurvedic industries, and in the cultivation of the species. In this study macroscopic details like plant morphology, floral biology and microscopic observations like anatomy, floral vasculature, stomatal index and number are considered.

Introduction

Kaempferia rotunda belonging to the family Zingiberaceae is known as 'Indian crocus' in English; *bhuyichampa* in Hindi; *chengazhinirkizhangu* and *chengazhinirkuva* in Malayalam; *bhumichampaka* and *bhuchampaka* in Sanskrit; and *nerppicin* in Tamil. The officinal part is tuberous roots used in more than 21 ayurvedic formulations like *Asokarishta*, *Tungadrumadi taila*, *Triphaladi taila*, *Gopanganadi kashaya*, *Mahakalyanaka ghrita*, *Chyavanaprasa*, etc. (S.R. Iyer, 1983). The plant has natural distribution throughout India in moist soil and is also cultivated. In Kerala it is seen growing in Silent valley and Nelliampathi of Palakkad district, Begur, Kalpetta and Thirunelli of Wayanad district, Mala and Peechi of Trissur district. (Fig. I)

The tubers are acrid, thermogenic, aromatic, stomachic, anti-inflammatory, sialagogue, emetic and vulnerary. They are useful in vitiated conditions of *vata* and *kapha*, gastropathy, dropsy, inflammations, wound, ulcers, blood clots, tumours and cancerous swellings (Warrier et al, 1995).

Morphological description

Perennial herbs with tuberous rhizomes which produce numerous tuberous roots; leaves simple, ligulate, few, erect, lanceolate, acute, variegated green above tinged with purple below, up to 45 cm. long and 10 cm. wide, petiole short channelled, leaf base sheathing, flowers on a short crowded spike, appearing before the leaves, bracteolate, bisexual and trimerous; calyx short, cylindric, splitting down on one side, greenish white, corolla tube long, petals 3, equal; androecium consists of 6 stamens in two whorls of three in each. The two laterals of the outer whorl get transformed into petaloid staminodes which are pinkish white in colour. The laterals

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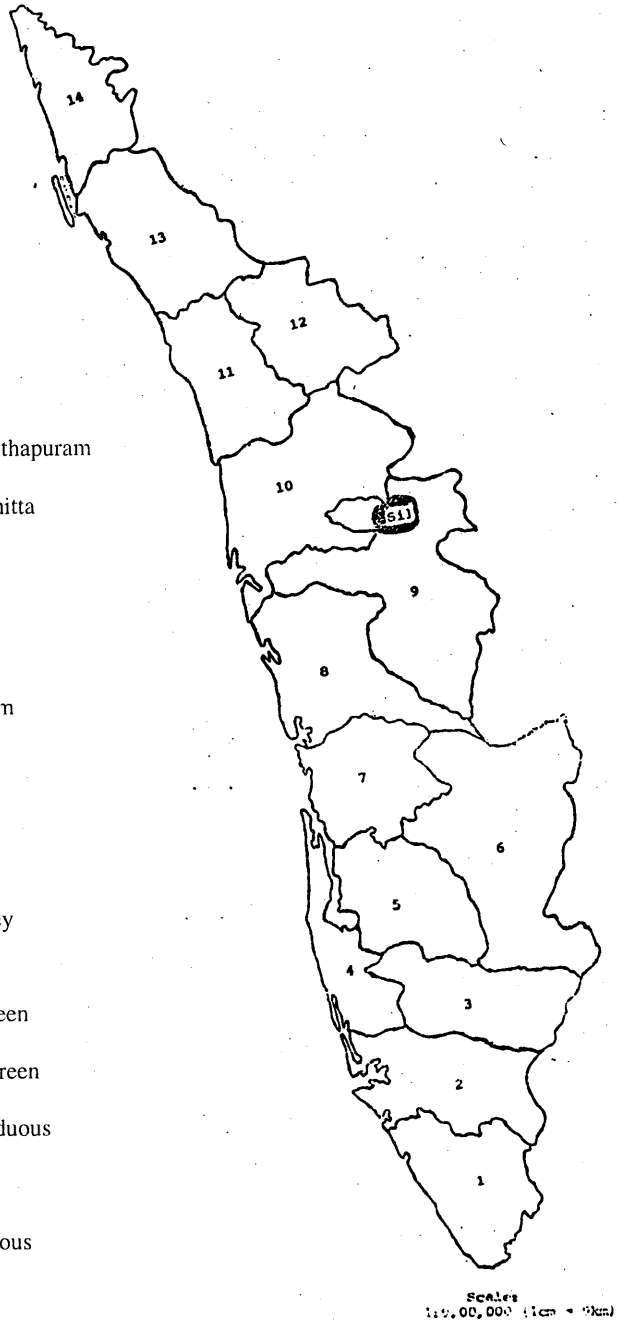
Fig.I. *Kaempferia rotunda* Linn. - Location Map



Districts

1. Thiruvananthapuram
2. Kollam
3. Pathanamthitta
4. Alappuzha
5. Kottayam
6. Idukki
7. Ernakulam
8. Trissur
9. Palakkad
10. Malappuram
11. Kozhikode
12. Wayanad
13. Kannur
14. Kasargode

Localities

Sil. Silent valley

Forest types

- Wet evergreen
- Semi evergreen
- Moist deciduous
- Shola
- Dry deciduous
- Plane

of the inner whorl are united to form the posterior labellum which is pinkish white in colour. The anterior odd one is fertile, which has a long filament and the two anther lobes are separated by a long connective which is produced beyond the anther lobe; ovary inferior, tricarpellary, syncarpous with many ovules on axile placentation, style terminal passing through the groove in between the anther lobes, stigma funnel shaped (Fig. II&III).

Materials and Methods

Plant materials for macro and microscopic observations were collected from different parts of Kerala and fixed in F.A.A. seeds were collected for propagation studies. For anatomical works stained hand sections and macerated materials were examined under compound microscope. Stomatal index was found out using samples treated in 5% KOH solution. For determining stomatal index, ten epidermal peelings from both surfaces of a fresh leaf were taken and ten counting were recorded from ten different areas of each piece (ie. number of stomata as well as epidermal cells per 1sq.mm area). Stomatal index value is then calculated by using the formula $\frac{E}{E+S} \times 100$ where E and S stand for the number of epidermal cells and number of stomata of unit area respectively (Salisbery, 1928). The values are represented graphically. These numerical values may be considered as a diagnostic constant and will help for identifying the plant species.

Floral vasculature

About twenty vascular strands supply the calyx tube and they get interconnected often by transverse or oblique branches (Fig. IVc).

The corolla tube is also supplied with about twenty vascular bundles which further enter into the petals, each are having six to ten bundles. These 12 to 14 bundles frequently branch and rebranch and often get interconnected (Fig. IVa). Similar type of vascular supply is evident in the labellum also (Fig. IVb, c & e).

The fertile stamen is supplied with three vascular strands which run parallel to each other through the filament. The middle one passes through the connective tissue in between the anther lobes and get branched at the tip, while the laterals after supplying the anther lobes continue into the protruded connective and get branched (Fig. IVd).

Ovary is supplied with 3 vascular bundles. Each one branches into two giving rise to a dorsal branch and ventral branch. Ventral branch supplies the ovules; dorsal branches traverse through the style and enter into stigma without any branching.

Anatomy

Rhizome

The cross-section is circular in outline with a conspicuous brown coloured exodermis consisting of 7-10 layers of cells. Interior to this is a large zone of ground tissue composed of thin walled cells with abundance of intercellular spaces. Most of the cells contain plenty of starch grains where as a few contains oil globules. Many collateral and closed vascular bundles are seen scattered in the cortex. Each bundle contains 3-4 xylem vessels and scanty phloem. Each bundle is surrounded by a single layer of parenchymatous cells which are devoid of starch grains. In the middle region numerous vascular bundles are seen indiscriminately scattered (Fig. V).

Fig. II. *Kaempferia rotunda* Linn. - Habit

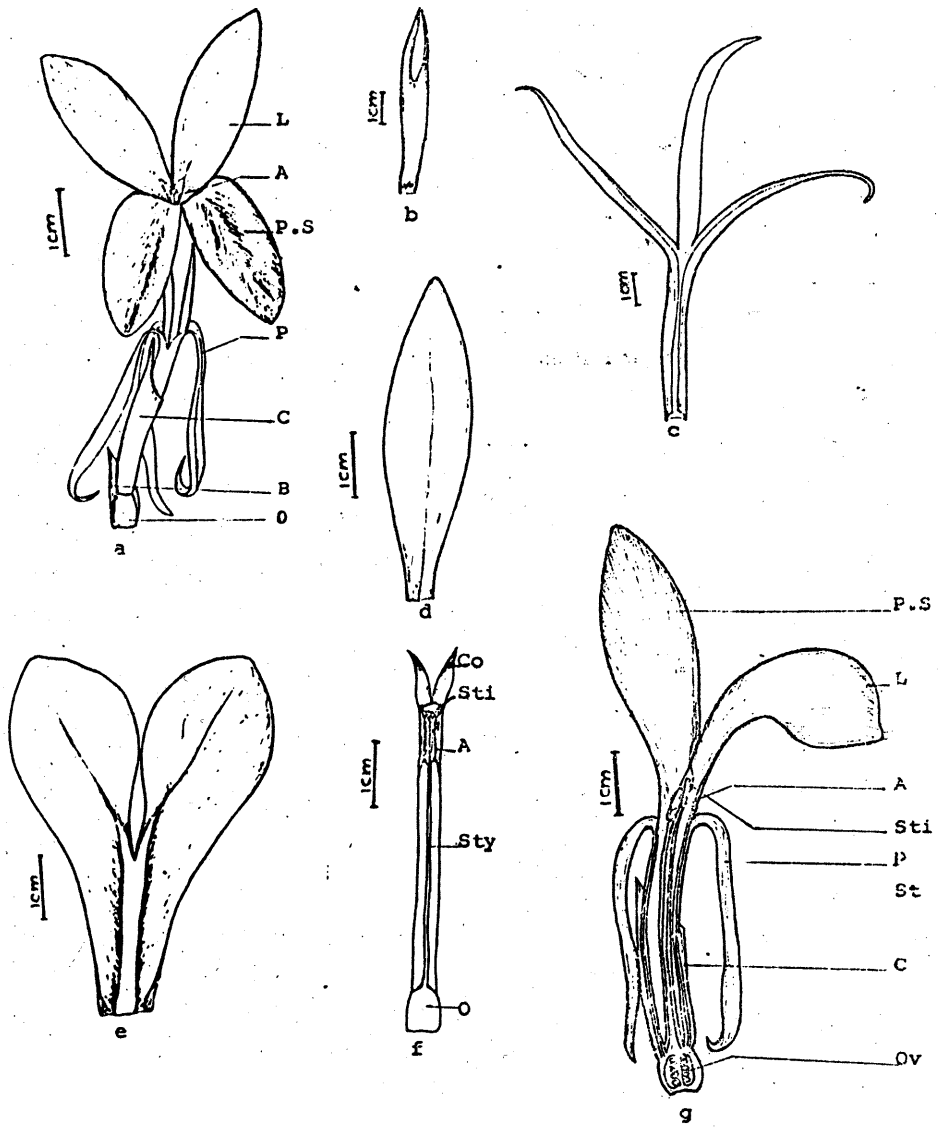


Fig. III. **a - g** *Kaempferia rotunda* Linn. **a**) Single flower **b**) Calyx tube **c**) Corolla tube **d**) Petaloid staminod **e**) Labellum **f**) Gynoecium with anthers **g**) Flower L.S.

A. Fertile anther **B**. Bract **C**. Calyx tube **Co**. Protruded connective **L**. Labellum **O**. Ovary **Ov**. Ovule **P**. Petal **P.S**. Petaloid staminod **Sti**. Stigma **Sty**. Style

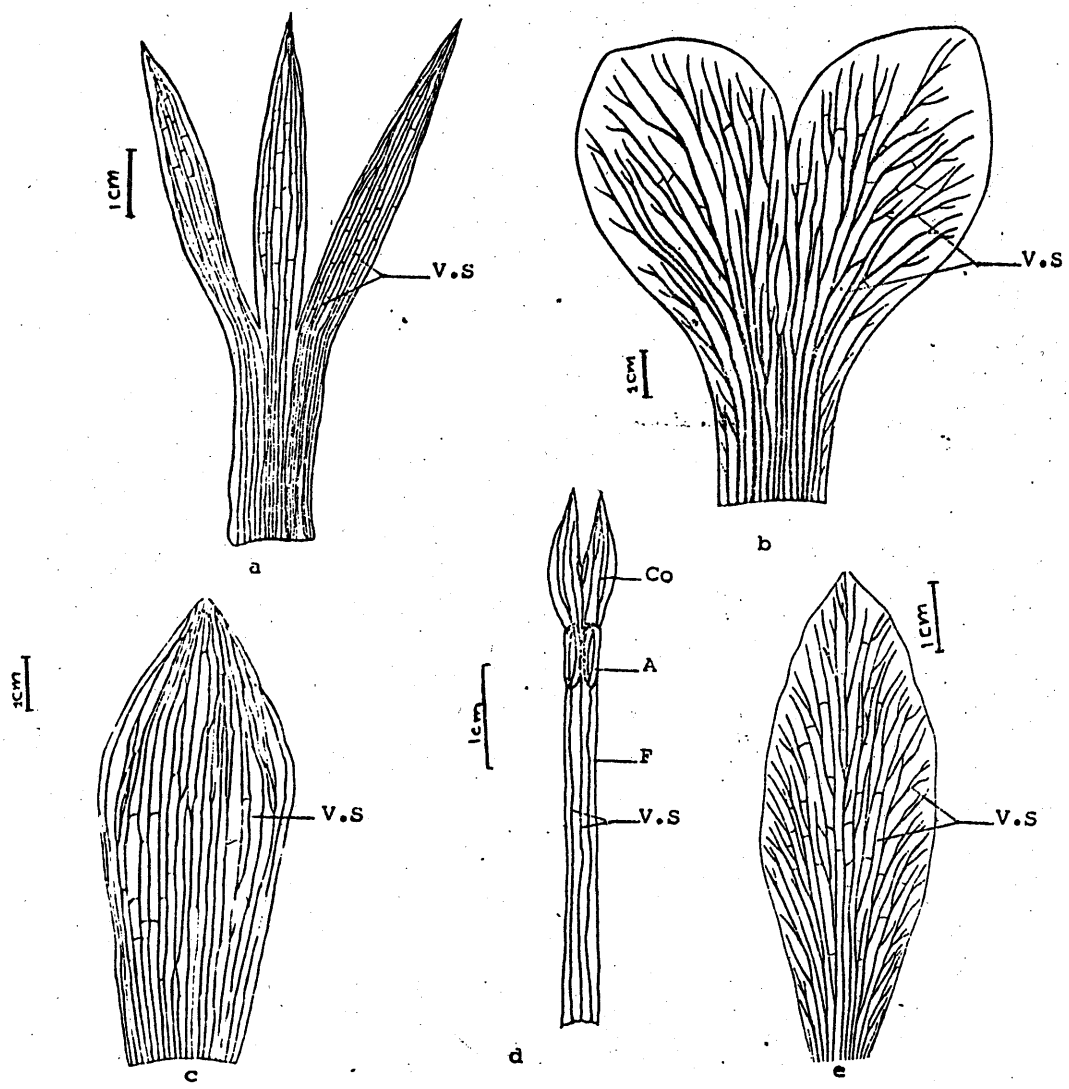


Fig. IV. **a - e** *Kaempferia rotunda* Linn. - Floral vasculature **a**) Corolla tube opened **b**) Labellum **c**) Calyx tube opened **d**) Fertile anther **e**) Petaloid staminod.

A. Anther **Co**. Protruded connective **F**. Filament **V.S**. Vascular supply

Root

The root is circular in outline in cross section. Outer 4-6 layers of cells in the cortex are polygonal and regularly arranged. In the inner region of the cortex cells are irregularly arranged with intercellular spaces. Some of the cortical cells contain oil globules. The cortex is delimited by a single layered epidermis. The radial and inner tangential walls of the endodermal cells are prominently thickened. Pericycle is single layered. Numerous xylem groups alternating the phloem patches are arranged in the form of a ring. Pith is parenchymatous (Fig. VIa&b).

Tuberous root

In T.S., tuberous root is circular in outline. Outer 4-6 layers constitute the brown epidermis. Interior to this is a large zone of parenchymatous cortex containing starch grain and oil globules. Stelar region is same as that of the normal root (Fig. VIc&d).

Leaf

Petiole

Petiole in cross section is closed 'c'-shaped in outline. Epidermis is single layered followed by 1-2 layers of parenchymatous cells. Most of the vascular bundles are arranged along the periphery. Alternating with these bundles is inconspicuous air cavities. Each air cavity is surrounded by 2-3 layers of chlorenchymatous cells. Vascular bundles are closed and have 2-4 xylem vessels and a small patch of phloem. Schlerenchymatous girdles are present on both sides of the bundle. The ground tissue is parenchymatous in which small bundles are seen scattered (Fig. VIIa&b).

Lamina

The epidermis is single layered followed by single layered large parenchymatous hypodermis. Mesophyll is undifferentiated and contain plenty of chloroplasts. Vascular bundles are seen developed in the mesophyll region. In the mid-rib region air cavities are conspicuous in the mesophyll tissue. Vascular bundles are closed and contain 3-4 xylem vessels and scanty phloem. Schlerenchymatous girdles are present on both upper and lower sides of the bundle. Stomata are of rubiaceous type (paracytic) (Fig. VIIc-f).

Stomatal index is 8.73 (lower epidermis) and 1.96 (upper epidermis) (Fig. VIIIa&b, Table. Ia&b).

Propagation

Rhizomes are usually used for propagation. After harvesting the tubers, rhizomes are stored in dry sand. During May-June the sprouts arise from the rhizomes. Each bit having a single sprout is used for planting. As in the case of ginger and turmeric they are planted in pits taken on the already prepared beds. After planting the beds should be covered with dry leafy twigs. Weeding and manuring should be done twice, once in August and the other in November. Harvesting is done in December-January. 150-200 gms of new tubers can be got from each plant. This is an ideal item for intercropping in coconut plantations.

Chemical studies

Review

On steam distillation, the rhizomes yield 0.2% of a light yellow volatile oil with an unpleasant odour, at first camphoraceous and later

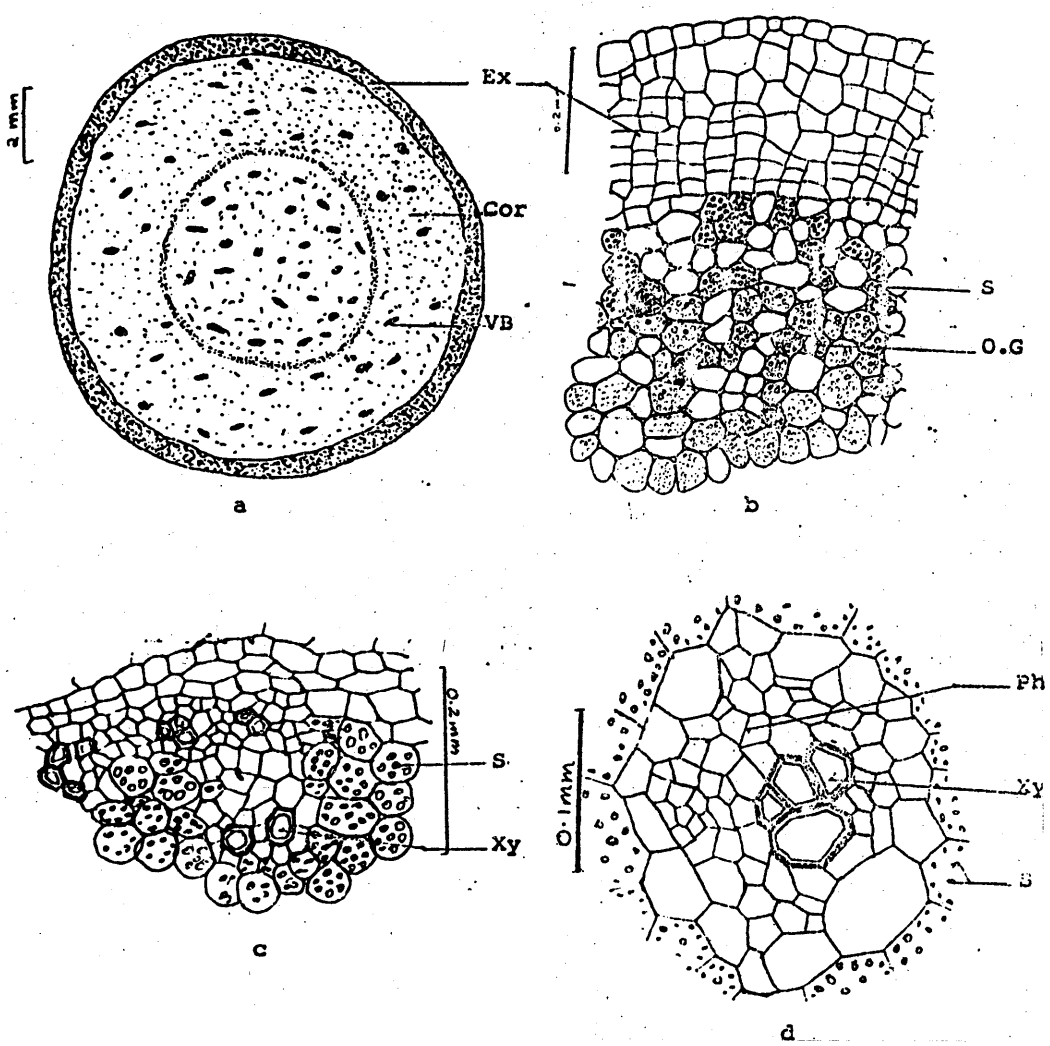


Fig. V. **a** - **d** *Kaempferia rotunda* Linn. **a**) T.S. of rhizome - diagrammatic
b & **c**) Portion of rhizome - cellular **d**) Single vascular bundle.

Cor. Cortex **Ex**. Exodermis **O.G**. Oil globule **Ph**. Phloem **S**. Starch grain **V.B**. Vascular bundle **Xy**. Xylem

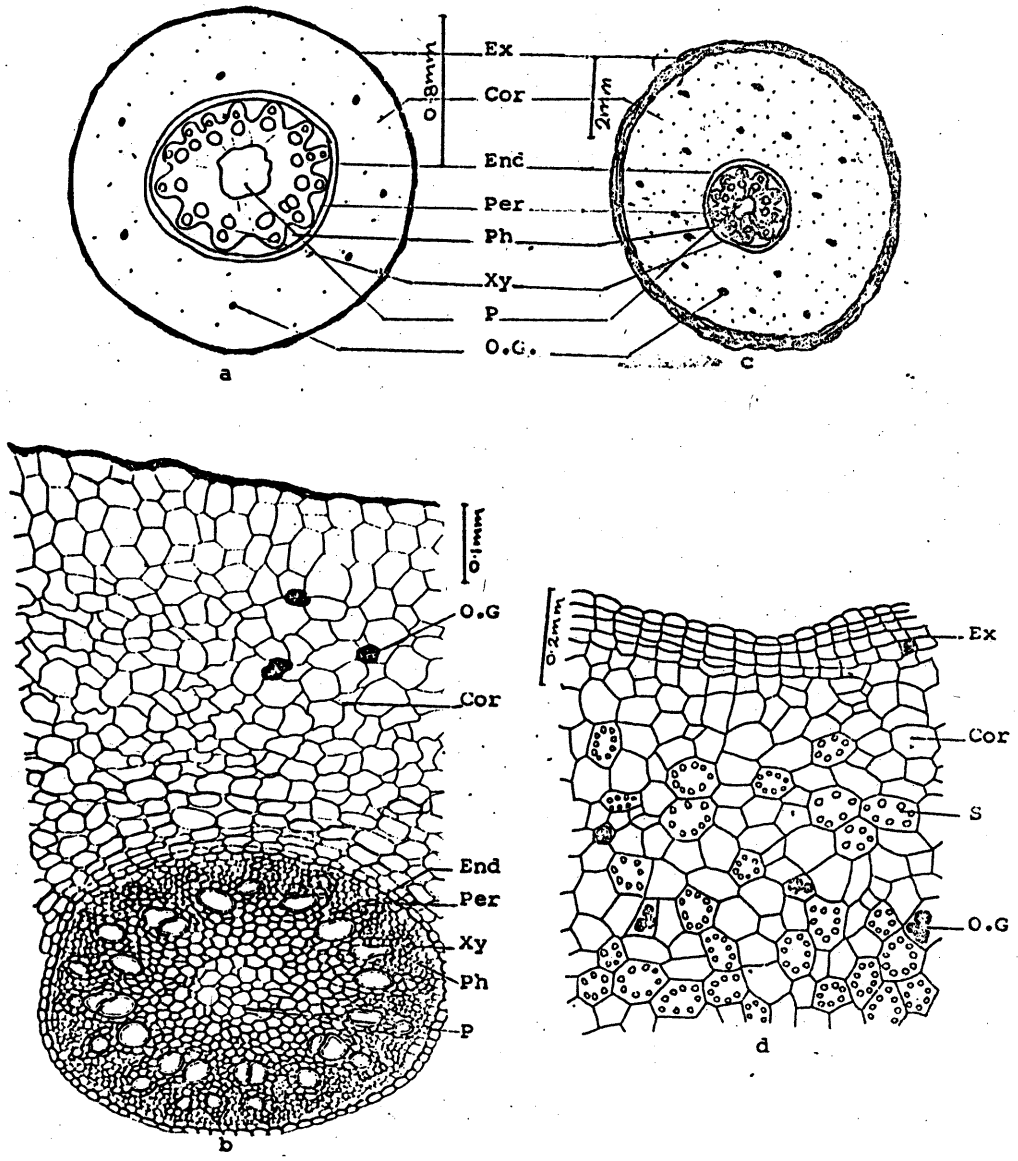


Fig. VI. **a** - **d** *Kaempferia rotunda* Linn. **a**) T.S. of root - diagrammatic **b**) A portion of root enlarged **c**) T.S. of tuberous root - diagrammatic **d**) A portion of tuberous root enlarged.

Cor. Cortex **End**. Endodermis **Ex**. Exodermis **O.G**. Oil globule **P**. Pith **Per**. Pericycle **Ph**. Phloem **S**. Starch grain **Xy**. Xylem

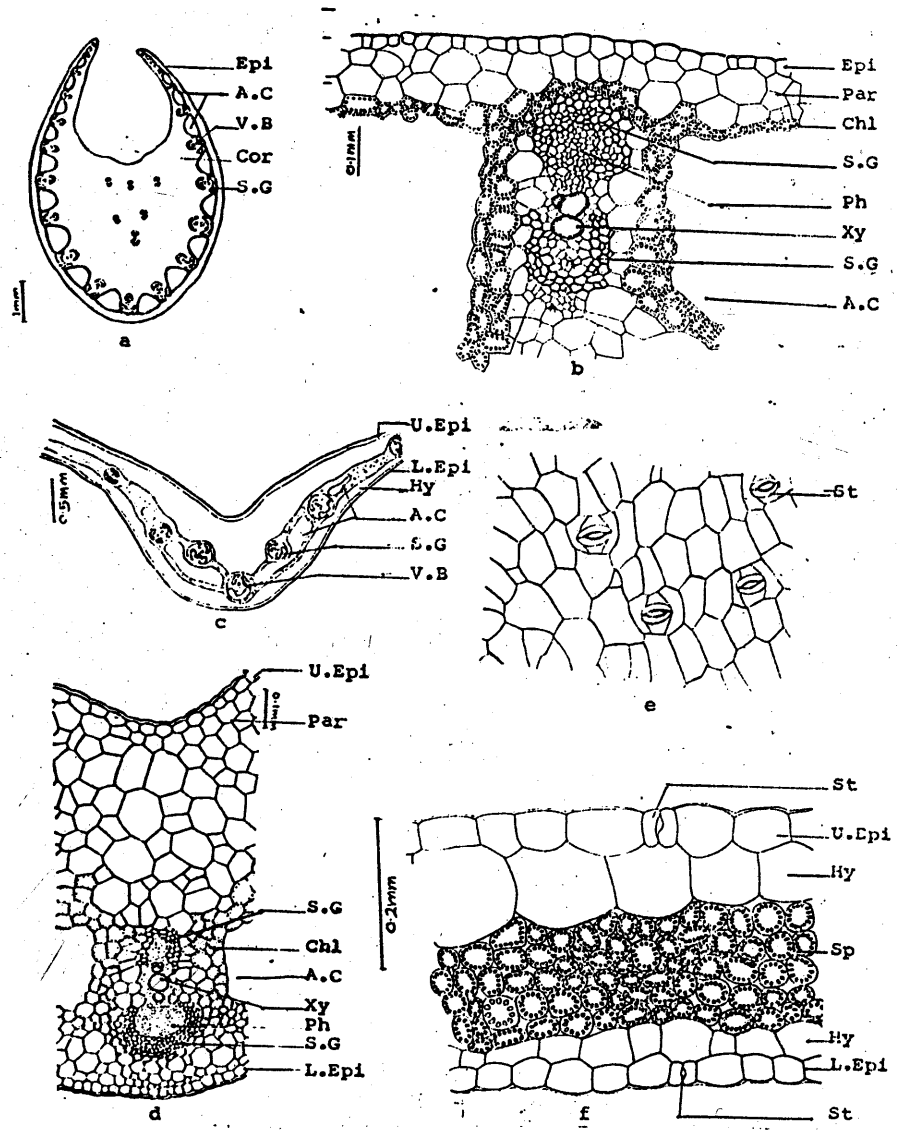


Fig. VII. **a** - **f** *Kaempferia rotunda* Linn. **a**) T.S. of petiole - diagrammatic **b**) A portion of petiole enlarged **c**) T.S. of leaf through midrib - diagrammatic **d**) Detailed T.S. of midrib of leaf **e**) Lower epidermis **f**) Detailed T.S. of lamina.

A.C. Air chamber **Cor**. Cortex **Chi**. Chlorenchyma **Epi**. Epidermis **Hy**. Hypodermis **L.Epi**. Lower Epidermis **Par**. Parenchyma **Ph**. Phloem **S.G**. Schlerenchymatous girdle **Sp**. Spongy tissue **St**. Stomata **U.Epi**. Upper epidermis **V.B**. Vascular bundle **Xy**. Xylem

Table Ia : *Kaempferia rotunda* Linn. - Stomatal index - Lower Epidermis

	I			II			III			IV			V		
	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index
1	302	35	10.39	304	32	09.52	288	24	07.69	504	36	06.67	494	38	07.14
2	332	32	08.79	296	32	09.76	320	28	08.05	448	32	06.67	484	40	07.63
3	324	32	08.99	336	44	11.58	276	28	09.21	392	28	06.67	412	36	08.04
4	340	36	09.57	300	32	09.64	316	24	07.06	432	36	07.69	396	32	07.48
5	356	36	09.18	316	38	10.73	264	38	09.59	412	32	07.21	372	28	07.00
6	408	40	08.93	364	40	09.90	296	28	08.64	480	40	07.69	402	37	08.43
7	348	36	09.38	324	36	10.00	324	32	08.99	456	38	07.69	396	30	07.04
8	382	38	09.05	292	36	10.98	324	36	10.00	520	40	07.14	418	38	08.33
9	374	38	09.22	309	36	10.47	324	34	09.49	500	40	07.41	425	35	07.61
10	328	32	08.89	344	38	09.95	280	28	09.09	502	40	07.38	385	29	07.00
Average			09.24			10.25			08.78			07.22			07.57

	VI			VII			VIII			IX			X		
	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index
1	256	26	09.22	512	54	09.54	465	65	12.26	500	53	09.58	502	52	09.39
2	300	30	09.09	540	48	08.16	465	63	11.49	490	43	08.07	515	54	09.49
3	315	32	09.22	510	56	09.89	502	51	09.22	530	48	08.30	546	45	07.61
4	320	32	09.09	480	64	11.76	496	44	08.15	525	46	08.06	520	46	08.13
5	290	28	08.81	964	62	06.04	480	33	06.43	540	48	08.16	490	43	06.07
6	320	34	09.60	484	60	11.03	530	46	07.99	495	61	10.97	502	50	09.05
7	296	28	08.64	492	44	08.21	520	55	09.57	530	47	08.15	510	52	09.25
8	316	30	08.62	480	32	06.25	530	44	07.67	495	42	07.82	525	47	08.22
9	302	30	09.04	512	52	09.22	495	43	07.99	515	55	09.65	480	49	09.26
10	280	27	08.79	525	47	08.22	475	30	05.94	496	49	08.99	480	48	09.09
Average			09.01			08.83			08.87			08.78			08.76

Ranges: 7.22 - 10.25 Mean: 8.73 Standard deviation : 1.26

Fig. VIIIa. *Kaempferia rotunda* Linn. - Stomatal index - Lower Epidermis

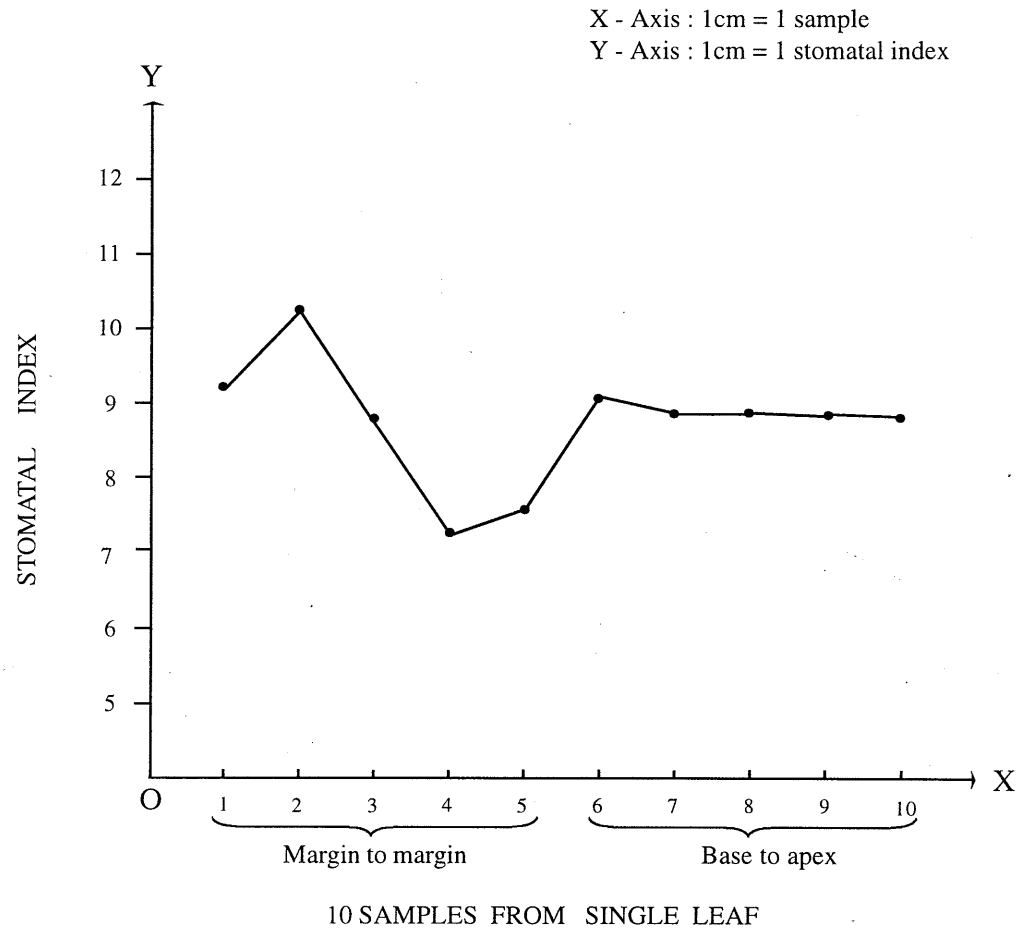


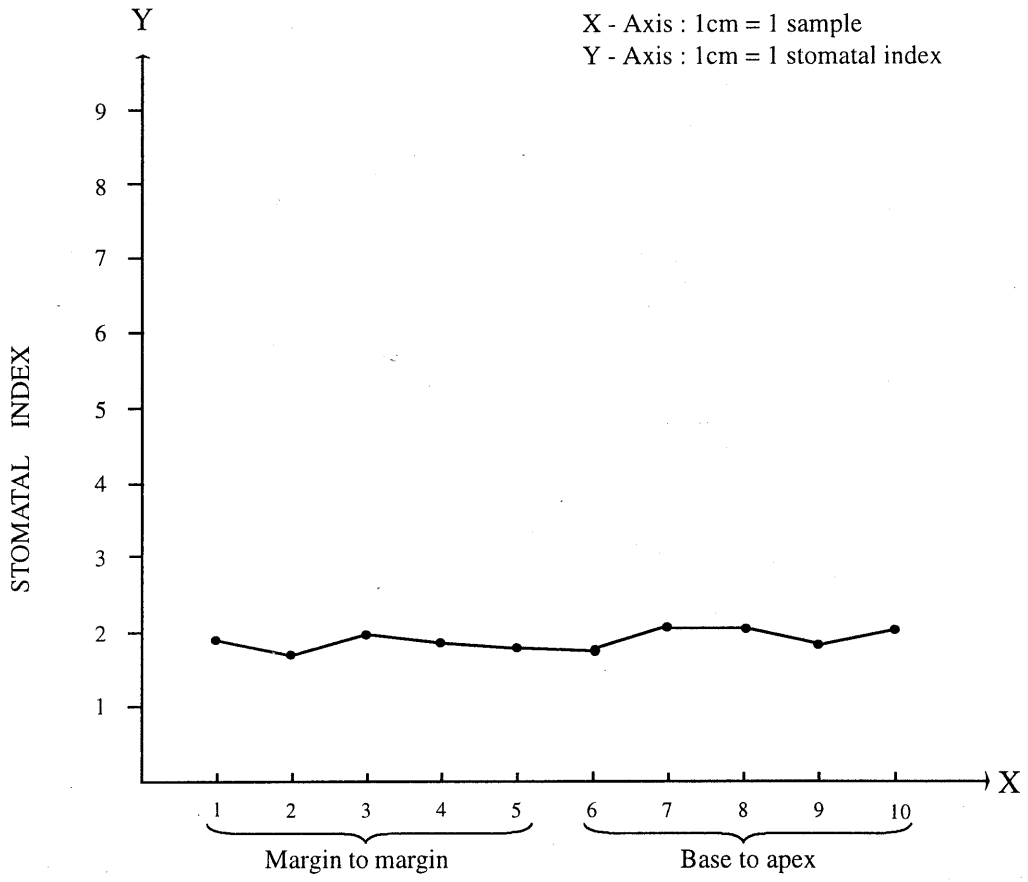
Table Ib : *Kaempferia rotunda* Linn - Stomatal index - Upper Epidermis

	I			II			III			IV			V		
	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index
1	392	4	01.01	352	4	01.12	369	7	01.86	325	5	01.52	340	5	01.45
2	320	0	00.00	321	7	02.13	384	8	02.04	336	8	02.33	329	7	02.08
3	388	8	02.02	346	8	02.26	400	4	00.99	348	4	01.14	354	6	01.67
4	312	5	01.58	356	8	02.19	329	7	02.08	320	8	02.44	328	4	01.20
5	348	8	02.25	424	4	00.93	352	8	02.22	339	7	02.02	320	8	02.44
6	316	8	02.47	318	5	01.55	364	4	01.09	360	8	02.17	371	9	02.37
7	318	7	02.15	330	9	02.65	331	5	01.49	342	6	01.72	332	8	02.35
8	319	9	02.74	372	8	02.11	344	12	03.37	334	6	01.76	324	4	01.22
9	340	8	02.29	348	0	00.00	376	6	01.57	340	8	02.29	326	4	01.21
10	328	8	02.38	388	8	02.02	370	11	02.89	348	4	01.14	328	6	01.79
Average			01.89			01.69			01.96			01.85			01.78

	VI			VII			VIII			IX			X		
	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index	No. of Epi. cells	No. of Stom-ata	Stom-atal Index
1	342	9	02.56	344	12	03.37	340	10	02.86	367	9	02.39	358	7	01.92
2	322	6	01.83	348	12	03.33	362	9	02.43	380	8	02.06	330	11	03.23
3	340	8	02.29	318	7	02.15	396	8	01.98	328	4	01.20	394	6	01.50
4	344	4	01.15	348	9	02.52	386	8	02.03	354	8	02.21	390	6	01.52
5	328	4	01.20	388	12	03.00	376	9	02.34	374	8	02.09	382	8	02.05
6	342	6	01.72	376	8	02.08	380	12	03.06	376	8	02.08	376	8	02.08
7	370	7	01.66	382	10	02.55	384	8	02.04	349	7	01.97	351	7	01.96
8	344	9	02.55	390	6	01.52	394	6	01.50	374	4	01.06	358	8	02.19
9	332	4	01.19	321	7	02.13	382	7	01.79	386	6	01.53	360	8	02.06
10	342	4	01.16	404	4	00.98	340	11	03.13	380	6	01.55	370	12	03.14
Average			01.75			02.36			02.32			01.81			02.17

Range : 1.69 - 2.36 Mean: 1.96 Standard deviation : 0.71

. Fig. VIII.b. *Kaempferia rotunda* Linn. - Stomatal index - Upper Epidermis



10 SAMPLES FROM SINGLE LEAF

resembling the odour of tarragon oil. The oil contains cineol and probably methyl chavicol (Wealth of India, 1959).

Result and discussion

For sustained yield and supply, large-scale cultivation should be undertaken. High-yielding seedlings scientifically propagated should be made available to the farmers for cultivation. Proper storage technology should also be adopted for preventing deterioration in storage.

Acknowledgements

The authors are extremely grateful to Dr. P.K. Warrier, The Managing Trustee & Chief Physician (Project Leader) for giving us encouragement and extending the necessary facilities for the work. The constant encouragement and helpful suggestions received from Sri. K.K. Nair I.F.S. (Retd.), Local consultant of the project, Dr. C. Ramankutty, Asst. Factory Manager, Arya Vaidya Sala, Kottakkal, Dr. Indira Balachandran, Research Officer, Arya Vaidya Sala Herbal Garden, Kottakkal and Dr. G.P. Mukundan, Manager, Arya Vaidya Sala Herbal Garden, Kanjirapuzha are gratefully acknowledged. We are thankful to Mr. V.K. Uthaman, Computer Assistant who did the typing work.

We acknowledge our grateful thanks to the International Development Research Centre, Ottawa, Canada for providing financial assistance to conduct the research work.

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COMBINED CONTRACEPTIVE EFFICACY OF DIFFERENT PLANT PRODUCT EXTRACTS IN MALE ALBINO RATS : A COMPARATIVE STUDY

Meenakshi Bhagat and Ashok Purohit.*

Abstract: Oral administration of neem bark (*Azadirachta indica*) and berry of yellow-berried nightshade (*Solanum xanthocarpum*) (1:1) and neem bark + neem leaves (1:1) to male albino rats at the dose of 500 mg/kg b. wt orally for 60 days caused arrest of spermatogenesis. The motility in cauda epididymidis and sperm density in cauda epididymidis was significantly reduced ($p \leq 0.001$) in both the treated groups. Fertility test also showed 100% negative result. Similarly testicular cell population i.e. spermatogonia, primary and secondary spermatocytes and spermatids were reduced significantly in group II ($p \leq 0.001$), whereas in case of group III only spermatids showed significant reduction. The degenerating number of Leydig cell was increased significantly in both the group II and III. In case of biochemical parameter, glycogen and protein were significantly reduced in both groups II and III, whereas group III showed significant reduction of cholesterol. Sialic acid showed highly significant reduction in both the groups. Fructose was reduced slightly in both the groups ($p \leq 0.01$ to 0.05). Histometery shows significant reduction in the seminiferous tubules, Leydig cell nuclear diameter and epithelial cell height in the caput, cauda epididymidis and seminal vesicle.

Introduction

Since *Azadirachta indica* (leaves and bark) and *Solanum xanthocarpum* (berry) have been reported to possess antifertility activity,[1,2,3] the present study was undertaken to elucidate the combined effect of neem bark + *Solanum xanthocarpum* and neem bark + neem leaves. Although their antifertility effect had been proved there was no study which showed the combined effect of these plant extracts.

Material and method

The *Solanum xanthocarpum* (berry) collected in and around Jaipur were shade dried, powdered and soxhletted, with 50% ethanol. The extract was collected after evaporating ethanol under reduced pressure. The same process was carried out in the case of neem bark and neem leaves. After this, the extract of *Solanum xanthocarpum* (berry) and neem bark extract was mixed in (1:1) ratio. Other combinations

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were also prepared similarly. The dose was determined by LD_{50} 30 test and it came to 500 mg/kg body weight.

Fertile healthy adult male albino rats (*Rattus norvegicus*) weighing (150 to 200g) were maintained at 24° ± 5°C and fed with standard diet and water *ad libitum*. They were divided into 3 groups of 5 each. The animals of the control group received only distilled water. The animals of the experimental group were fed with 500 mg/kg b.wt/rat/day for 60 days. On 55th day till 60th day the animals were kept for fertility test with females in 1:2 ratio. After completion of experiment, on the 61st day body weights were recorded and animals were autopsied by using chloroform. The sperm motility and density were counted by the method of Prasad et.al[4]. The weight of organs was recorded after removing the adherent tissue. The fresh tissues were freezed for the cholesterol[5], glycogen[6], fructose[7], protein[8] and sialic acid[9] determination.

Testes were fixed in Bouin's fluid passed through alcoholic dehydration and embedded in paraffin wax. The 5μ sections were made and stained with Harris heamatoxylin and eosin. The histometric data for seminiferous tubules and Leydig cell nuclear diameter were carried out by using camera Lucida at X 80 and X 800. The evaluation of testicular cell population dynamics was based on the calculations made for each cell types per cross-tubular section. All raw counts were transformed to nuclear point by using Abercrombie's formula[10]. Interstitial cell types such as fibroblast, immature, mature and degenerating Leydig cells were estimated applying a different count over 200 cells. This cell population was statistically verified by the binomial distribution[11]. The data were reported as mean ± SEM. The significance was observed by applying student's 't' test.

Result

The weights of all the reproductive organs decreased significantly ($p \leq 0.01$ to 0.001) (Table 1)

Histometric changes and sperm dynamics:- Highly significant change was observed in case of seminiferous tubule and Leydig cell nuclear diameter in both the treatment groups II and III, but still group III showed better results. Sperm dynamics showed the motility as well as density were significantly reduced ($p \leq 0.001$) in both the treatment group II and III (Table 2).

Biochemical changes:- Testicular cholesterol was significantly increased in group III whereas in group II there was no alteration, when compared to control group. While comparing glycogen in testis both the groups showed significant decrease. Fructose contents in case of seminal vesicles also showed slight reduction ($p \leq 0.05$). As comparison to group III, group II showed significant reduction in both protein and sialic acid contents of testis as well as epididymis (Table 3).

Testicular cell population dynamics:- In group II significant reduction was observed in all germinal cell types ($p \leq 0.001$), whereas in group III only spermatid number were reduced significantly, when compared with control group. However, the degenerating Leydig cells numbers were significantly increased in both treated group II and III. In comparison to group II, group III shows drastic changes in testicular cell population dynamics (Table 4).

Discussion

The process of spermatogenesis is androgen dependent[12,13]. Decreased androgen produc-

Table 1. Body and reproductive organ weight response when male albino rats were fed with various combined plant product extract (mean of 5 animals ± SEM)

Treatment	Body weight (gm)		Testes	Epididymidis	Seminal Vesicle	Ventral prostate
Groups	Initial	Final	---------- mg/100gm body weight ----------			
Intact control Group I	180.3 ± 5.21	195.0 ± 30.25	1320.4 ± 23.82	423.82 ± 23.82	398.85 ± 75.80	212.51 ± 9.21
Intact + neem bark + *Solanum xanthocarpum* Group II	250.0 ± 10.35	260.0 ± 19.36	1021.45 ± 46.24[a]	365.46 ± 14.4[b]	230.0 ± 27.26[c]	190.6 ± 27.92[a]
Intact + neem bark + neem leaves-Group III	205.0 ± 10.35	200.6 ± 35.25	612.24 ± 30.2[c]	277.86 ± 30.26[c]	346.44 ± 15.26[b]	120.62 ± 4.68[c]

When group II and III compared with group I : P≤0.05=a, P≤0.01=b, P≤0.001=c, P≤ns=non significant=d

Table 2. Histometrical parameters, fertility test and sperm dynamics of various combined plant product extract fed male albino rats (mean of 5 animals ± SEM)

Treatment	Sperm Density (million/ml)		Sperm motility (%)	Fertility Test %	Semini-ferous Tubule Diameter µm	Leydig cell Nuclear Diameter µm	Epithelial cell height µm		
Groups	Testes	Cauda	Cauda				Caput	Cauda	Seminal Vesicle
Intact Control Group I	4.29 ± 0.19	56.26 ± 0.39	69.10 ± 2.32	85 (+)	279.15 ± 3.62	5.32 ± 0.08	48.26 ± 0.87	36.76 ± 0.89	21.5 ± 0.62
Intact + neem bark + *Solanum xanthocarpum* Group II	0.11 ± 0.3[c]	1.28 ± 0.48[c]	6.92 ± 4.36[c]	100 (-)	152.2 ± 3.5[c]	2.39 ± 0.05[c]	32.62 ± 0.52[c]	13.72 ± 0.26[c]	9.16 ± 0.46[c]
Intact + neem bark + neem leaves - Group III	1.26 ± 0.68[c]	5.26 ± 2.12[c]	5.96 ± 4.21[c]	100 (-)	182.96 ± 4.3[c]	2.65 ± 0.04[c]	22.02 ± 0.76[c]	14.2 ± 0.46[c]	11.82 ± 0.32[c]

When group II and III compared with group I : P≤0.05=a, P≤0.01=b, P≤0.001=c, P≤ns=non significant=d

Table 3. Tissue biochemistry of various combined plant product extract fed male albino rats (mean of 5 animals ± SEM)

Treatment	Fructose (mg/gm)	Cholesterol (mg/gm)	Glycogen (mg/gm)	Protein (mg/gm)	Sialic acid (mg/gm)
Groups	Seminal vesical	Testes	Testes	Testes	Testes
Intact control Group I	5.76 ± 0.2	8.6 ± 0.06	2.36 ± 0.20	210.36 ± 4.76	4.71 ± 0.02
Intact + neem bark + *Solanum xanthocarpum* Group II	4.16 ± 0.31a	8.34 ± 0.42^{d}	1.02 ± 0.67^{c}	96.62 ± 2.23^{c}	2.08 ± 0.20^{c}
Intact + neem bark + neem leaves Group III	3.76 ± 0.28b	10.46 ± 10.23^{c}	1.46 ± 10.02^{c}	151.36 ± 2.76^{c}	3.38 ± 0.06^{b}

When group II and III compared with group I: P≤0.05=a, P≤0.01=b, P≤0.001=c, P≤ns=non significant=d

Table 4. Testicular cell population dynamics of various combined plant product extract fed intact male albino rats (mean of 5 animals ± SEM)

Treatment	Germinal cell types				Interstitial cell types			
Groups	Spermato-gonia	Spermato-cytes (Primary)	Spermato-cytes (Secondary)	Spermatids	Fibroblast	Immature leydig cell	Mature leydig cell	Denerating cell
Intact Control Group I	24.06 ± 0.94	19.94 ± 0.79	67.26 ± 3.21	155.7 ± 3.92	60.12 ± 2.32	52.46 ± 4.42	74.32 ± 2.01	15.23 ± 2.62
Intact + neem bark + *Solanum xanthocarpum* Group II	8.76 ± 0.86^{c}	9.96 ± 1.21^{c}	4.060.62	8.12 ± 0.36^{c}	61.46 ± 0.86^{d}	26.33 ± 1.78^{c}	24.36 ± 2.18c	90.10 ± 2.16^{c}
Intact + neem bark + neem leaves - Group III	21.56 + 2.12^{d}	20.17 ± 0.68^{d}	37.24 ± 4.31^{b}	36.87 ± 4.21^{c}	57.21 ± 0.32^{d}	61.21 ± 0.21^{d}	51.12 ± 0.67^{c}	72.36 ± 3.42^{c}

When group II and III compared with group I : P≤0.05=a, P≤0.01=b, P≤0.001=c, P≤ns=non significant=d

tion reflects in reduced number of Leydig cell and their functional status. In the present study the number of degenerating Leydig cells increased significantly there by reflecting the depletion of androgen level. It is further supported by decreased number of germinal cells i.e. spermatocytes and spermatids since these stages are completely androgen dependent[14]. Similarly significant reductions in the sperm motility of cauda epididymidis were observed in both treatment groups. This may be due to inhibitory effects of plant product extract combination on the enzyme of oxidative phosphorylation[15, 16]. Plasma testosterone level inversely correlated with plasma cholesterol[17,18]. The significant elevation in the concentration of testicular cholesterol was noted in the plant group, which prove indirectly the reduce level of circulating testosterone. Hence impairment of spermatogenesis takes place and also the decreased sperm density confirms the same. Our biochemical study revealed reduction of testicular glycogen in both the treated groups, which shows inhibition of spermatogenesis[19]. Further androgen dependent parameters like protein, sialic acid and fructose levels were reduced in reproductive organs. These finding further support the androgen imbalance.

In conclusion the combined effect of *Solanum xanthocarpum* berry (50% EtoH) extract with neem bark and neem bark + neem leaves extracts showed antispermatogenic effects. But in comparison to neem bark and neem leaves extract combination, the *Solanum xanthocarpum* berry and neem bark combination caused stronger action.

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EVALUATION OF THE CLINICAL MANAGEMENT OF *PRAMEHA ROGA* (DIABETES MELLITUS)

Rajagopalan, K.*and Sasidharan, K.**

Abstract: This paper presents the results of a clinical research study in *prameha* being conducted in the Clinic for Diabetes and Infertility Research sponsored by Keraleeya Ayurveda Samajam Hospital, Shoranur. This programme started in 1990. The clinical management has been exclusively on the basis of classical methods instead of using single formulation. Treatment modules for each patient were decided after detailed discussions in a panel of experts consisting of *ashtavaidyas* and other eminent scholars in ayurveda and modern medicine. Different modes of treatment were utilised to suit the particular condition of the disease and the studies have shown statistically significant positive results in the management of *prameha* by ayurvedic treatment which could bring out effective long lasting remedies.

Introduction

Prameharoga in ayurveda and diabetes mellitus seem to be analogous and ayurveda considers it as all those clinical conditions which are characterised by increased quantity of urine associated with or without an increased frequency of micturition. This disease is known since the vedic period[1] and its treatments are described in the *Koushikasutra*[2] of post vedic period also. The *acharyas* like Charaka, Susruta and Vagbhata have given detailed descriptions of this disease and its treatment.

Polyuria (*prabhootamootrata*) and turbidity of the urine (*avilamootrata*) are the two cardinal symptoms of this disease according to ayurveda. It considers *prameha* as the vitiation of the *tridoshas* i.e. *vata, pitta* and *kapha.* The principle of *agni* at various tissue levels which is more or less analogous to the hormonal, enzymatic and all metabolic activities gets deranged in functional level leading to the production of *ama* i.e. undigested metabolic substances inconsistent with the normal tissue system. The production of *ama* in *prameha* is mainly related to the resolution of *kapha* and related structures like *mamsa, medas*, etc. followed by the *saithilya* (dissociation and disintegration) which initiates the pathological events. The *amadosha* in *prameha* is in the form of *kleda* (inconsistent resolved *kahpa*) which naturally gets drained to the urine leading to

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polyuria and turbidity in urine. Thus, the involvement of *agni* and *ama* formation in *prameha* has to be taken into account in the treatment. It is true that diabetes has a genetic origin and hereditary factors are involved. Ayurveda has identified 20 varieties of *prameha* which could be brought under the *doshikabheda* and the etiopathogenesis with *kapha, pitta* and *vata* is in a progressive manner affecting the whole systems which encompasses a group of obstinate urinary disorders sometimes seen as proteinuria (nephrotic and nephritic), porphyrinurias (cirrhosis, pernicious anaemia), haematurias (trauma, tumour, tuberculosis), phosphaturias and alkaptanurias, etc.

Among the 20 types of *pramehas*, 10 are *kaphaja* type, 6 *paittika* type and 4 *vataja* type. Multiple factors related to food, regimen and life style, which vitiate *kapha* are said to be the causative factors of *prameha.* Sedentary habits, overeating, increased consumption of sweet articles and fats can lead to *prameharoga. Acharyas* have stressed the role of mental factors such as *achinta* (inertia), *bhaya* (fear, anxiety), *soka* (sorrow), etc. which will lead to *madhumeha*[3]. As stated above *prameha* is a disease caused by the production of excess *kleda* and derangement of the principle of *agni* and the treatments should aim at eliminating and dislodging the *kleda* and correcting the function of *agni.*

Materials and Methods

About 2000 patients with symptoms of *prameharoga* reported at the Keraleeya Ayurveda Samajam Hospital among which 83 cases were selected for the research and assessment with regard to the efficacy of ayurveda treatment and studies were conducted scientifically. Diagnosis was done on the basis of the signs and symptoms, and laboratory investigation data for more than one time. (Table I)

Exclusion criteria of patients

1. Patients with FBS level 300 mg% and or with PPBS level 400 mg% or more.

2. Patients with acute conditions like systemic respiratory tract and urinary infections, and with gangrene, and carbuncles.

3. Patients with IHD, renal failure, pulmonary tuberculosis and osteoporosis.

4. Patients who discontinued the treatment before a minimum period of 90 days and those who did not report for review for a minimum of 3 consecutive visits.

5. When grave errors were made by the patient against medical advice.

6. *Sahaja* (hereditary) type *prameha.*

Objectives

1. To evaluate the efficacy of ayurvedic treatments in *prameharoga.*

2. To evaluate the combined effect of ayurvedic and allopathic medications.

3. To evaluate the effect of ayurvedic treatments in associated symptoms arising out of long term disease process in *prameharoga.*

Classification of patients

The patients were categorised into 4 groups.

1) Group A (on ayurveda medication only)

2) Group B (on ayurveda medicines + allo-

Table I

CASE PROFORMA

O.P. No. : I.P. No. : Date:

Name : Address :

Age : Sex: Occupation: Marital status:

Socio-economic status: Low/medium/high

Presenting symptoms:

1. Polyuria 2. Polyphagia 3. Polydipsia 4. Fatigue
5. Neural problem 6. Gastro intestinal disorders 7. Optic involvement 8. Sexual weakness
9. Discolouration of urine 10. Skin involvement

Associated diseases/signs if any:

History of presenting complaints:

Gradual on set	Yes/No
Sudden on set	Yes/No
Hereditary	Yes/No
Family history	Yes/No
Sleep	Sound/disturbed
Bowel movements	Regular/irregular loose/hard
Hypertensive	Yes/No
Weight	Average weight/under weight
Built	Obese/lean/medium

Food habits:

Madhuradhikyam (likes more sweet taste)	Yes/No
Amladhikyam (likes more sour taste)	Yes/No
Lavanadhikyam (likes more salt taste)	Yes/No
Snigdha guru aharam (likes more unctuous, heavy food)	Yes/No
Sammisraharam (mixed food)	Yes/No
Anoopa mamsam (meat of aquatic animals)	Yes/No
Dadhi (curd)	Yes/No
Ksheeram (milk)	Yes/No
Sarkara (sugar)	Yes/No
Divaswapnam (day sleep)	Yes/No
Sedentary style	Yes/No
Digestive power	

Blood investigations:

TC, DC, ESR, Hb%, RBS, FBS, PPBS, B.urea, Creatinine, Cholesterol, Glycocylate Hb%

Urine investigations:

Routine/Microscopic, FUS, PPUS.

pathic oral hypoglycaemics)

3) Group C (on ayurveda medicines + insulin)

4) Group D (on ayurveda medicines + allopathic oral hypoglycaemics + insulin)

The patients in each group were given ayurvedic treatment along with allopathic medication except in group A in which ayurveda medicines alone were administered. This method was adopted with the view to finding out the efficacy of ayurveda treatments in this disease and also to find out the combined effect of ayurvedic and allopathic medication in selected patients. The patients in groups B, C and D were already on allopathic medication while starting the ayurvedic treatments. The patients in group A were those who stopped the allopathic treatment on starting the ayurvedic medication and also few started the ayurvedic treatment immediately on detecting the disease. This study is basically aimed at finding out the possibility of either reducing the dosage of or stopping entirely the allopathic medication in response to the effect of combined medication as shown in groups B, C and D. The study also focused on the management of other associated symptoms arising out of long term disease process. Analysis of laboratory data was conducted in every consecutive visit at an interval of 30 days.

Medicines used for treatments

This consisted of special *kashayams* (decoctions), *choornams* (powders) and pills. Particular medicaments were administered depending on the *dosha* state of the disease and the condition of the patient and also considering the variables as described in the classical text. Apart from certain classical formulations, special drug combinations were also used. The ingredients of such special drugs were so selected as to suite the particular *dosha* condition of the disease process in each patient. (Table II)

The allopathic hypoglycaemic drugs were those which come under the sulphonyl urea group and were administered under the supervision of allopathic experts. Ayurvedic medicines were prepared in Keraleeya Ayurveda Samajam Pharmacy section as per the rules prescribed by Sarngadhara samhita. *Pathya* (wholesome), *apathya* (unwholesome) and *vyayama* (exercise) were suggested as described in the ayurvedic literature.

A panel of eminent scholars in ayurveda and allopathic systems reviewed the cases periodically and treatment regimens were suggested accordingly. The patients who were on allopathic medicines were also examined by allopathic experts.

Classical formulations

1. *Patolanimbadikashayam* (Ashtangahridayam)
2. *Gayatriadi kashayam* (Ashtangahridayam)
3. *Varasanadi kashayam* (Sahasrayogam)
4. *Nisakatakadi kashayam* (Sahasrayogam)
5. *Nisamritadi kashayam* (Sahasrayogam)

Considering the variables like *prakriti*, vitiation of *doshas* and *dooshyas*, *agni*, body strength, age and the particular presenting symptoms, the proportion and number of ingredients were decided. The special formulations were

Table II. Ingredients of special formulations with *rasam, gunam, veeryam* and *vipakam.*

Sl. No	Name	*Rasam*	*Gunam*	*Veeryam*	*Vipakam*
1	*Amalaki* (*Emblica officinalis* Gaertn.)	*Lavanavarjitam*	*Rooksham*	*Seetam*	*Madhuram*
2	*Haridra* (*Curcuma longa* Linn.)	*Katutiktam*	*Rooksham*	*Ushnam*	*Katu*
3	*Guluchi* (*Tinospora cordifolia* Willd.)	*Tiktakashayam*	*Gurusnigdham*	*Ushnam*	*Madhuram*
4	*Musta* (*Cyperus rotundus* Linn.)	*Katutiktam*	*Laghurooksham*	*Seetam*	*Katu*
5	*Abhaya* (*Terminalia chebula* Retz.)	*Lavanavarjitam*	*Laghurooksham*	*Ushnam*	*Madhuram*
6	*Vibhitaki* (*Terminalia bellirica* Roxb.)	*Kashayam*	*Rooksha laghu*	*Ushnam*	*Katu*
7	*Nagaram* (*Zingiber officinale* Rosc.)	*Katu*	*Teekshnam*	*Ushnam*	*Madhuram*
8	*Pippali* (*Piper longum* Linn.)	*Katu*	*Snigdha-teekshnam*	*Anushna seetam*	*Madhuram*
9	*Vidanga* (*Embelia ribes* Burm.f.)	*Katu*	*Laghurooksham*	*Ushnam*	*Katu*
10	*Jambu* (*Syzygium cumini* Linn.)	*Kashaya-madhuram*	*Rooksham*	*Seetam*	*Madhuram*
11	*Aragwadha* (*Cassia fistula* Linn.)	*Madhuratiktam*	*Gurusnigdham*	*Seetam*	*Madhuram*
12	*Nimba* (*Azadirachta indica* A.Juss.)	*Tiktakashayam*	*Laghu*	*Seetam*	*Madhuram*
13	*Kutaja* (*Holarrhena antidysenterica* Wall.)	*Tiktakashayam*	*Laghurooksham*	*Seetam*	*Katu*
14	*Lodhra* (*Symplocos laurina* (Retz.)	*Kashayatiktam*	*Laghurooksham*	*Seetam*	*Katu*
15	*Kiratatikta* (*Swertia chirata* Wall.)	*Tiktam*	*Laghurooksham*	*Seetam*	*Katu*

given where the situations required particular *dravyas* (drugs) with the principles which acts accordingly to normalise the abnormal permutations of the *dosha*. This could be identified by the various signs and symptoms presented by the patient. Apart from the oral administration, some of the patients were given *vastichikitsa*, which is described in classical text, e.g. *Panchatiktavasti*.

Assessment and evaluation

The statistical analysis of the data collected with regard to various groups was done and the response was ascertained by comparing the results before and after treatment using paired 't' test. The symptomatic relief was assessed by calculating the percentage reduction and the groups were compared using 'Chi-square' test.

Observation and results

Observations were made with respect to the change of symptoms on 1st, 2nd and 3rd visits for assessment i.e. 30th, 60th and 90th day of the treatment respectively. The findings of laboratory investigations during the above period were also noted. The observations made are presented in Tables No. III to VIII. The level of control of fasting blood sugar in the patients of the four groups after the respective mode of treatment for 90 days is presented in Table III.

The data presented in Table III shows that out of the 23 patients administered with ayurvedic line of treatment alone, 16 patients (69.6%) continued to be diabetic even after the treatment for 90 days; but it was 'well controlled' during the period of treatment with respect to fasting blood sugar. At the same time, in the B group, those who had 'diabetes but well controlled' after 3 months of treatment was 55.6%. However, the difference in the percentage of these two groups was not statistically significant (P>0.05). Regarding 'control of diabetes', C-group showed 100% effectiveness but in D-group it was just half (50%).

The B group showed 37.8% (17 cases) of moderate control (decreasing trend) of fasting blood sugar level in place of only 26.1% in A group. In this case too, the difference in the

Table III. Fasting blood sugar status after 90 days of treatment.

Treatment group	Fasting blood sugar status							
	Present / well controlled		Decreased / moderate control		Absent		Increased	
	No.	%	No.	%	No.	%	No.	%
A	16	69.6	6	26.1	1	4.3	-	-
B	25	55.6	17	37.8	1	2.2	2	4.4
C	9	100.0	-	-	-	-	-	-
D	3	50.0	2	33.0	-	-	1	17.0

percentage was not significant statistically (Z=1;P>0.05). In D group, 33% showed 'moderate control' in fasting blood sugar. In A and B groups, one case each, was completely free from diabetes according to fasting blood sugar level but 2 cases in B group showed an increased level.

The average values of post-prandial blood sugar levels of the patients in each group after the respective group treatment mode for 30, 60 and 90 days are presented in Table IV.

The effectiveness of various treatment regimens was assessed by considering the mean post prandial blood sugar level, before treatment, after 30 days of treatment, after 60 days of treatment and after 90 days. The data presented in Table IV indicates that the patients of group A recorded a constant decline and had reduced from 213 gm% to 197 gm% after 30 days of treatment, then to 170 gm% after 60 days and had attained a level of 168 gm% at the end of 90 days. The B group patients also showed similar trend and had dropped from 206 gm% before treatment to 173 gm% after 90 days. But group C and D showed no appreciable reduction in PPBS after 90 days of treatment. In fact, group C showed a slight increase numerically.

The data on control of group average value of the post-prandial blood sugar level for each group after 90 days of the respective treatment mode is presented in Table V.

An attempt has been made in Table V to compare the PPBS level before and after 90 days of treatment statistically. The values taken are group averages. The levels of reduction after 90 days of treatment found in groups A and B are found to be highly statistically significant. At the same time groups C and D do not show any remarkable change in PPBS level. The smallness of sample population might also be a reason for the insignificant paired 't' values. Thus it is clearly indicated that treatment methods A and B are superior to C and D, with regard to PPBS.

Table IV. Mean ± S.D. of PPBS according to duration of assessment.

Treatment group	Mean ± S.D. of PPBS			
	Before treatment	After 30 days treatment	After 60 days treatment	After 90 days treatment
A	213 ± 65	197 ± 77	170 ± 77	168 ± 62
B	206 ± 55	189 ± 64	189 ± 64	173 ± 46
C	193 ± 49	186 ± 46	186 ± 46	207 ± 51
D	229 ± 62	229 ± 62	230 ± 26	225 ± 25

Table V. Comparative effectiveness of treatment on PPBS after 90 days of treatment.

Treatment group	Mean PPBS		Paired 't' value	'P' Value
	Before treatment	After 90 days treatment		
A	213	168	4.60	P<.001(H.S)
B	206	173	3.40	P<.01 (H.S)
C	193	207	0.67	P>.05 (N.S)
D	229	225	0.10	P>.05 (N.S)

H.S. - Highly statistically significant
N.S. - Not statistically significant

The average of the individual values of fall in post prandial blood sugar level for the 23 patients in group A and 45 patients in group B are presented in Table VI.

Table VI. Comparison of reduction in PPBS after 90 days of treatment in groups A and B.

Treatment group	Decrease in PPBS		't' value	'P' Value
	Mean	S.D.		
A	65.0	59	-	-
B	36.0	54	2.12	P<.05

The decline in the PPBS after 90 days of treatment of group A is compared with that of group B in Table VI. Groups C and D were excluded from this analysis, since they did not show statistically significant changes in PPBS after 90 days of treatment. The mean decrease in PPBS of group A showed almost two times higher reduction in PPBS level in 90 days compared to B group. In group A the mean decline was 65 gm% in place of only 36 in group B. The difference noted in the mean reduction between the groups was statistically significant ($t = 2.12$; d.f. = 66, $P<0.05$). So it is inferred that treatment A is superior to B, with regard to PPBS, though both are effective in controlling the PPBS level.

An attempt was also made to study the possible effect of the four modes of treatment on neural complaint, which is an associated complaint of long term diabetes. Table VII presents the data obtained from this study.

It is seen from Table VII that group D has maximum cure rate (66.7%) followed by group B (52.8%) numerically. However the statistical test of comparison turned out to be insignificant in all the four groups. It appears that all the four treatment methods have similar effect in curing the neural complaint.

Neural complaints of fatigue were also studied as on associated complaint of long term diabetes. The data observed are presented in Table VIII.

It is evident from Table VIII that all the four groups have similar effects statistically in

Table VII.

Comparison of % cure from neural complaints in groups A,B,C, D and level of significance.

Treatment group	No. of cases	Cure for neural complaint		'P' Value
		No.	%	
A	19	6	31.6	P >.05
B	36	19	52.8	P >.05
C	6	2	33.3	P >.05
D	6	4	66.7	P >.05

Group A Vs. Group B	Z=1.75	P>.05	(Not significant)
Group A Vs. Group C	Z= 0.1	P>.05	(Not significant)
Group A Vs. Group D	Z=1.63	P>.05	(Not significant)
Group B Vs. Group C	Z=1.12	P>.05	(Not significant)
Group B Vs. Group D	Z=1.7	P>.05	(Not significant)
Group C Vs. Group D	Z=1.3	P>.05	(Not significant)

Table VIII.

Comparison of % cure from neural complaints of fatigue in Groups A,B,C &D and level of significance.

Treatment group	No. of cases	Cure for neural complaint		'P' Value
		No.	%	
A	18	8	44.4	P >.05
B	32	18	56.3	P >.05
C	3	2	66.6	P >.05
D	4	2	50.0	P >.05

Group A Vs. Group B	Z=0.93	P>.05	(Not significant)
Group A Vs. Group C	Z=1.18	P>.05	(Not significant)
Group A Vs. Group D	Z=0.25	P>.05	(Not significant)
Group B Vs. Group C	Z=0.57	P>.05	(Not significant)
Group B Vs. Group D	Z=0.27	P>.05	(Not significant)
Group C Vs. Group D	Z=0.6	P>.05	(Not significant)

relieving the complaint of fatigue. The differences in the percentage of cure among the groups are insignificant statistically (P>0.05). Since the cure percentage is similar in all the groups, the role of ayurvedic medication, which is common to all the four groups, may need particular attention.

Discussion

Group A, in which only ayurvedic treatment was given, showed statistically highly significant results, in bringing down the fasting and post prandial blood sugar levels.

Group B also showed significant results in PPBS level control. Group C showed 100% control in fasting blood sugar; but not so in PPBS. Group C also did not give statistically significant data. The paucity of sample population in group C and D also seems to be a factor. Some of the patients in group B could either reduce the dosage or stop the allopathic medicine, after 90 days of combined therapy; but further studies are in progress in these lines. It was also observed that symptoms like neural complaints got cured in many patients in all the four groups. The role of ayurvedic drugs in the observation is to be studied in view of their presence in all the four groups.

Ayurveda holds the view that *prameha* with longstanding duration is incurable as it causes irreversible damage in organic/functional levels and in this context ayurvedic treatment could be much useful in the early stages of the disease which could prevent the further progression of the pathogenesis. The treatments also could give good results in cases where there did not have any serious irreversible impairments in organic/functional levels and also could normalise the metabolic functions of the systems.

There exists a possibility of much better response by using more effective drug combinations in long term treatment as the present study has indicated statistically significant results. The current study has also opened new vistas in the line of diabetic management by following classical formulation rather than the usage of single drugs. It could be hypothesised that the accumulation of *kleda* (inconsistent metabolic product) in *srotas* (extra-cellular spaces) leads to different environmental situations in and outside the cells (*dhatu*) with respect to the metabolic functions (*agni* functions) which derange the digestion and absorption of the *madhurabhavas* (glucose molecules) in the concerned tissue principles (*dhatus*). The reduction observed in the blood sugar levels can be pharmacologically interpreted as the process of removal of *kleda* from the channels (tissue spaces) thereby promoting the metabolism of *madhurabhavas* considerably.

Conclusions

1. Group A patients who received only the ayurvedic treatment showed statistically significant reduction in blood sugar levels.

2. Group B patients who received ayurvedic treatment along with oral anti-diabetic modern drugs also showed considerable reduction in blood sugar levels.

3. Significant changes were not observed in group C and D compared to groups A and B.

4. Symptoms like fatigue, neural complaints got cured in all the four groups.

Acknowledgement

The authors are grateful to Keraleeya Ayurveda Samajam Hospital and Nursing Home, Shoranur for granting permission to publish this paper and also express the gratitude to Shri M. Muralidharan, Secretary, Keraleeya Ayurveda Samajam, for his inspiring support to the programme. The authors also express their deepest gratitude to the *ashtavaidyas* and other learned panel consultants in ayurveda, who had enormously contributed to this research programme by divising the special formulations and treatment modules. The authors acknowledge with great thanks the valuable contributions made by the modern medical doctors in analysing and interpreting the various data related to pathological investigations.

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Aryavaidyan Vol. XIV, No.1, Aug. - Oct. - 2000, Pages 44 - 46

ETHICAL CODES IN AYURVEDA

Naresh Kumar and Anil Kumar.*

Abstract: In ayurveda, a physician is considered not only an expert administering medicines but is expected to present a model of exemplary behaviour and carve out an ideal social conduct for others to follow. He is supposed to have purity of mind and spirit and of course professional efficiency. There is a detailed description in almost all the authoritative works on ayurveda, of the qualifications, mental make up and the attitude of a physician while treating a patient. Here, in this article an attempt has been made to highlight the scattered references cited in Vrhattrayai regarding the code of conduct, expected to be followed by a physician.

Every profession has its own norms, values and a definite code of conduct. They determine the total behaviour of a person following that profession and every one entering that profession is expected to follow this.

A doctor is not only an expert in administering medicines for the alleviation of physical ailments but also an important social leader and guide. He is called upon by the society to present a model of exemplary behaviour and carve out an ideal social conduct for others to follow. Naturally, such an ideal path will be determined not only by the modes of the profession but also by the social, religious, moral and cultural heritage of the society in which he practices. Our ancient saints and seers had allotted as pride of place to doctors, teachers, philosophers and social workers who dedicated their lives for the benefit of the society. That is why the science of medicine was considered as one of the *veda*s and given the name of ayurveda – the science of life. It was considered one of the ways where a person not only rises above the common masses but attains a state of divinity.

It goes without saying that the ayurvedic system of medicine was followed by people whose main aim was unselfish service to society with a view to help everybody attain longevity and good health. That is why ayurveda had religious, moral and spiritual sanction. This system of medicine clearly defines the goals, aims and objectives, and defined a code of conduct for new entrants into the profession.

He is expected to be an ideal man who by cultivating habits of self-discipline, social

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service, purity of mind and spirit and professional efficiency raises himself.

A patient, according to ayurveda, is a person who suffers on account of unnatural living or on account of mental tensions created by style of life which is totally against the social and moral demands for a happy life. Therefore, a doctor, according to ayurvedic system of medicine is expected to be a psychologist or rather a psychoanalyst having sound knowledge of social ethics. It was Dr. Freud who acquainted the western world with the fact that about ninety percent of the diseases originate in the unconscious mind. Dr. Freud and other western psychologists translated the views of Indian ethical thinkers. Their views are represented by the following verse of Srimad Bhagvad Geeta.

ध्यायतो विषयान्पुंसा सङ्गस्तेषूपजायते ।
सङ्गात् सञ्जायते कामः कामात्क्रोधोऽभिजायते ॥
क्रोधाद्भवति संमोहः सम्मोहात्स्मृति विभ्रमः ।
स्मृतिभ्रंशात् बुद्धिनाशो बुद्धिनाशात्प्रणश्यति ॥

(IInd Chapter, 62-63)

i.e. brooding on the objects of senses, man develops attachment to them. From attachment comes desire and from desire anger sprouts forth. From anger proceeds delusion and from delusion confused memory. From confused memory the reason is destroyed the man perishes due to this.

This is in fact the best elucidation of the modern psychological theory of needs, wants, urges, desires and goals. They lead to frustration, repression and mental derangement which was the bedrock of Dr. Freud's system of psychoanalytical treatment. And long before this the ayurvedic system of medicine called upon its practitioners to follow this approach by following a particular moral and ethical code which would not only reveal the unconscious of the patient to him but will also help the patient to reverse the process of frustration and mental dejection. This theory says that we have certain instincts and urges. The process of civilisation demands that these instincts and urges should be properly educated, chanelised and controlled to attain higher aims. If left uncontrolled these motive forces lead us on the path of unbridled desires which as every one knows cannot be fulfilled in the case of every human being. Unfulfilled desires lead to frustration, anger, delusion and what not? A practitioner of ayurveda therefore understands this psychological process and keeps himself away from unbridled passions. He will have a balanced, sensible and objective view of human wants and will try to achieve the same state in his patients.

In fact almost all the authoritative works on ayurveda have given detailed description of the qualifications, the mental make-up, the attitude and the code of behaviour of a physician. The works of Charaka, Susruta, Vagbhata, the Brihattrai of ayurveda contain illuminating references about this aspect and it is considered imperative for a physician to know these scattered references before embarking on treatment. Although, these texts were compiled many centuries ago it can be said with authority that some of the references in these ayurvedic texts are timeless truths which are now being stressed by the other systems of medicines.

We know that most of the present day diseases have their origin in stress, mental tension, pollution, unnatural living, untrained

food habits and deliberate acts of omissions and commissions. Even the physicians fail to warn their patients properly about these mistakes due to one reason or other. The ethical code prescribed by ayurveda for the physician lays great stress on this part and demands that a practitioner of this system should be well versed in all these disciplines so that he can treat the patient psychologically and physiologically without much medication. Thus according to Susruta –

एकं शास्त्रमधीयानो न विद्याच्छास्त्रनिश्चयम् ।
तस्माद् बहुश्रुतः शास्त्रं विजानीयाच्चिकित्सकः ॥
(सु.सू. 4/7)

A doctor, who studies one branch of science only can't arrive at proper conclusions, therefore a physician should try to learn as many related sciences as possible. Similarly, according to Charaka –

भिषग्बुभूषुर्मतिमानतः स्वगुणसम्पदि ।
परं प्रयत्नमातिष्ठेत् प्राणदः स्याद्यथा नृणाम् ॥
(च.सू. 1/134)

It is to say that wise student aspiring to be a good doctor should try to increase his proficiency in all aspects to the best of his ability by all possible means so that he may be considered a life-giver to people.

According to Vagbhata, a physician of ayurveda is supposed to be an ideal person raising himself above the petty materialistic considerations.

सर्वत्र मैत्री करुणातुरेषु निरामदेहेषु नृषु प्रमोदः ।
मनस्युपेक्षापकृतिं व्रजत्सु वैद्यस्य
सद्वृत्तमलं तनोति ॥
(अ.स.उ. 50/95)

Friendship with all, sympathy towards the sick, feeling of profound satisfaction upon recovery and overlooking even those who feel ill towards him are required to fulfill the ethical requirements of a doctor.

In the present day life, we should not dream of a doctor as a superhuman. Definitely he has to cater his needs and requirements to keep pace with the rest of the society of which he is also an important figure. In this context, Charaka has elucidated very vividly.

नार्थार्थं नापि कामार्थमथ भूतदयां प्रति ।
वर्तते यश्चिकित्सायां स सर्वमतिवर्तते ॥
(च.चि. 1/58)

He, who treats his patients only on humanitarian grounds without desiring any money or personal benefits in return, supercedes all other physicians.

Thus, the ethical code of a physician of ayurveda is the most important element in his profession as a reliever of the sufferings of the mankind. The concern of global health scenario can be looked after properly only when the basic prerequisites of a physician are attended to and attended to with proper planning and orientation. Needless to say that the training programme of the physicians should attend to this aspect to achieve the best possible results. To quote *acharya* Susruta –

चिकित्सितात् पुण्यतमं न किञ्चिदपि शुश्रुमः ।
(सु.क. 8/142)

Nothing is more sacred than medical profession.

Aryavaidyan Vol. XIV, No.1, Aug. - Oct. - 2000, Pages 47 - 51

RASAVAISESHIKA - XXI

Raghavan Thirumulpad, K.*

Abstract: Discussion about *rasa* continues. Here Badanta Nagarjuna gives clear views about the formation of different *rasa* in different *dravya*, and what may cause a change in the *rasa*. The basic principles behind the formation of *uparasa* are also explained in this chapter.

31. तीव्रमन्दत्वमुत्कर्षापकर्षात् विशेषात् कारणस्य ॥
कारणस्य उत्कर्षापकर्षात् विशेषात्
तीव्रमन्दत्वं भवति ।

(Because of the difference in the predominance or otherwise of the cause the intensity or lightness appears in the *rasa*)

In the evolution of *rasa* in a *dravya*, the two *bhootas*, *jala* and *bhoomi* co-operate predominantly; the other *bhootas* only assist to cause the difference in *rasa* (*amla, lavana,* etc.)

32. तथास्वादविशेषात् द्रव्यविशेषश्च ॥
तथा अस्वादविशेषात् द्रव्यविशेषः भवति ।

(In the same way, with the difference in the taste appreciated, the difference in the *dravya* is caused.)

In ayurveda, each *dravya* is identified with its *rasa*, caused by the particular arrangement of the *bhootas*. Here *rasa,* means *rasadi,* i.e. *rasa, guna, veerya, vipaka* and *karma*. *Guna,* etc. are also caused by its particular arrangements of the five *bhootas*.

33. द्रव्यगुणवीर्यविपाककर्मभेदाः
कारणभेदात् प्रत्येकशः ॥
द्रव्यगुणवीर्यविपाककर्मभेदाः प्रत्येकशः
कारणभेदात् भवन्ति ।

(The differences in *dravya, guna, veerya, vipaka* and *karma* are caused by its particularity of the cause.)

Each *dravya* is different from another *dravya* due to its particular arrangement of the five *bhootas*, constituting it. Each *rasa* is different from another, due to the particular arrangement of the *bhootas* causing the *rasa*. *Dravya* is defined in Rasavaiseshika as द्रव्यमाश्रयलक्षणं पञ्चानाम् । - *Dravya* is the base of the other five *padarthas*.

The six *padarthas* as explained in ayurveda are - द्रव्यं रसाश्चैव गुणाः सवीर्याः विपाककर्माणि च षट् पदार्थाः ।

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Dravya, rasa, guna, veerya, vipaka and *karma* are the six particulars adopted in ayurveda to explain its theories and practices. Each of the *bhootas* that constitute the *dravya* has a particular function to perform in the maintenance of the *dravya* (*sootra* 41 of the second chapter). *Pakthi* (*paka*) is the function of the *agnibhoota*. A particular kind of *paka* causes the integration of *bhootas* as *dravya*. Another kind of *paka* causes *rasa,* another *guna,* etc. *Paka* is the result of *tejassamyoga*. *Tejas* is *agni* and *samyoga* means particular kind of association. *Vijateeya tejassamyoga* is the word used by the *acharyas* to denote the particular kind of cooking, so to say, causing *dravya, rasa, guna, veerya, vipaka* and *karma.* Particular arrangement of the *bhootas* cooked in the particular way causes particular *dravya, rasa, guna, veerya, vipaka* or *karma.* Certain *dravyas* which are *madhura* are seen to be *guru* in *guna*, and certain other *madhuradravyas* are seen to be *laghu*. This clearly indicates that the arrangements of the *bhootas*, in the *tejassamyoga* causing *rasa* and *guna* are different. It means that each of the six *padarthas* is produced by particular *tejassamyoga* on particular *bhoota* arrangement.

The term *karma* is used in ayurveda in two senses. *Karma* can be what the particular *dravya* does in a particular body, for example, some *dravyas* induce vomiting (छर्दनीय), some *dravya* induces purgation (विरेचनीय).

In Rasavaiseshika, *veerya* is defined as *karmalakshana, veerya* is some property which induces some such *karma*. *Karma* has another meaning also, application, *prayoga* (*prayoga lakshanam karma*). The *dravya* to produce some particular effect has to be applied. In the first meaning, *karma* is the result of a particular kind of *tejassamyoga* (*vijateeya tejassamyoga*) on a particular arrangement of *bhootas*. It is evolved in the process of the manifestation of *dravya*. In the second meaning, application, *karma* does not have any relationship to *tejassamyoga* or combination of the *bhootas*. Some *acharyas* denote *karma* as *prabhava,* in the first meaning, as a property of *dravya* – The benefit of the *dravya* is obtained by proper application (*prayoga*) which is in no way related to the *bhoota* constitution of the *dravya.*

34. विदाहाविदाहौ गुणेभ्यो द्रव्यविशेषादुपरस-
विशेषान्न चासौ रसस्य ॥

विदाहाविदाहौ गुणेभ्यः द्रव्यविशेषात् उपरस-
विशेषात् असौ च रसस्य न भवति ।

(*Vidaha* and *avidaha* caused by the *gunas*, particularity of the *dravya* and *uparasa.* It, the *uparasa*, does not belong to the *rasa*, it belongs to the *dravya.*)

Vidaha is fermentation and *avidaha* is the opposite of it. The opinion that *vidaha* and *avidaha* can be ascribed to the *rasas* is refuted. *Vidaha* and *avidaha* are caused by the particularity of the *dravya*, which is turn is due to the particular combination of the *bhootas*. They can be connected with the *gunas*. The *agneya gunas* (*gunas* generated with association of the *bhoota agni*) cause *vidaha* and *soumya gunas* (*gunas* generated with the association of the *bhoota jala*) cause *avidaha. Vidaha* and *avidaha* can be caused at times by the *uparasa*. *Uparasa* is secondary *rasa,* not so prominent as the primary *rasa,* as can be judged by the action ascribed to it. *Uparasa* does not

depend on the primary *rasa.* It is due to another particular combination and arrangement of the *bhootas* in the *dravya.* All the *dravyas* do not have *uparasa.*

35. तत्र कारणभेदो यथास्वम् ॥

तत्र कारणभेदः यथास्वम् भवति ।

(In the *uparasa* the difference in the causative factors can be understood by its particularity in causing some effect.)

The primary *rasa* in *madhu* (honey) is *madhura*, which is caused by a combination of the *bhootas* with *bhoomi* and *jala* in predominance. Its *uparasa, kashaya,* has the *bhootas*, *bhoomi* and *vayu* in predominance as material cause. But this combination causing *uparasa* is not as prominent as the other combination causing *rasa* in effect or the particular *tejassamyoga* is not as intense. Thus the doubts are cleared and it is established that the *rasas* are six in number.

36. अन्यथात्वगमनं स्थानात् ॥

रसस्य स्थानात् अन्यथात्वगमनं भवति ।

(The change of one *rasa* as another is caused by *sthana.*)

Sthana has two meanings, one condition and the other vessel. *Sali* as rice is *madhura* but *amla* in *dhanyamla.* Rice to be eaten is prepared with dehusked *sali.* It is one of the ingredients in the preparation of *dhanyamla.*

तिष्ठति अत्र इति स्थानं अधिकरणं. *Amladravya* in a copper vessel becomes *kashaya.* By cooking in a particular kind of vessel etc., also the *rasa* of a *dravya* can change.

37. संयोगतोऽग्नेः पाकात् ॥

संयोगतः अग्नेः पाकात् रसस्य
अन्यथात्वगमनं भवति ।

(Because of combination with some other *dravya* and also by cooking rasa may change as some other *rasa.*)

Chinchaphala and *amla dravya* becomes *madhura* when mixed with lime or *kshara.* क्षारो हि याति माधुर्यं शीघ्रमम्ळोपसंहितः । Something *kshara* becomes *madhura* when mixed with something that is *amla.* The *chinchaphala* which is *amla* becomes *madhura* if cooked in the fire. The cooked *jamboo phala,* dried in the wind becomes *madhura.*

38. आतपात् ॥

आतपात् रसस्य अन्यथात्वगमनं भवति ।

(One *rasa* may change as some other *rasa* by drying in the sun.) *Kashaya tumburuphala* becomes *madhura* when dried in the sun.

39. भावनया देशकालाभ्याम् ॥

भावनया देशकालाभ्याम् रसस्य अन्यथात्वं भवति ।

(With *bhavana* and with place and time *rasa* changes.)

Bhavana is a method by which one *dravya* is infused with the qualities of another *dravya.* The *dravya* is put in some liquid eight times by weight and dried in the sun. The method is repeated eight times. This is the method of *bhavana. Tila,* which is *kashayatiktamadhura* by *bhavana* in *yashtimadhura* decoction, becomes extremely *madhura* loosing its *kashaya* and *tikta* tastes. Some *dravya* changes its natural *rasa* grown in a particular region because of the quality of the soil. *Vrikshayurveda* indicates that by applying particular manure the taste of

the fruit can be changed, even the colour of the flower can changed. Time also changes the *rasa*, as in the case of the mango which is *amla* becomes *madhura*, when in time it ripens.

40. परिणामतः उपसर्गतः विक्रियातश्च ॥
परिणामतः उपसर्गतः विक्रियातः च रसस्य अन्यथात्वं भवति ॥

(With *parinama, upasarga,* and *vikriya* also the *rasa* changes.)

By *parinama* one *dravya* becomes another. Milk which is naturally *madhura* becomes curd which is *amla* by *parinama.* In the course of preparation *asava*s and *arishta*s, which are prepared with *dravya*s of different *rasa*s, become generally *amla. Upasarga* is contamination as by bacteria, virus, etc. *Ikshu* which is *madhura* in nature, infested with some insects changes its *rasa* to *tikta* or *amla. Vikriya* is some transformation which does not occur naturally. *Talaphala* which is *madhura,* if cooked in fire (in the oven), and spread on the floor, becomes *tikta.*

The action of the *rasa* is explained.

41. तत्र बृंहणीयाः तर्पणीयाः बल्याः वृष्याः स्वादवो गुरुविपाकाः मेदुराः स्थिराः पयस्याः हृद्याः स्निग्धाः जीवनीयाः सृष्टमूत्रपुरीषाः पूजिताश्चाभ्यवहरणाय पूर्वे ॥

तत्र पूर्वे बृंहणीयाः तर्पणीयाः बल्याः वृष्याः स्वादवः गुरुविपाकाः मेदुराः स्थिराः पयस्याः हृद्याः स्निग्धाः जीवनीयाः सृष्टमूत्रपुरीषाः अभ्यवहरणाय पूजिताः भवन्ति ।

[Of the *rasa*s, the first three are bodybuilding, pleasing, promoting strength and energy, increasing the semen, enjoyable, digested slowly, fat - increasing with lasting effect, increasing breast-milk, making the body greasy, pleasing the sense of taste, contributing *ojas* (vitality), eliminating urine and feaces (remedying constipation), best suited to be used as food.]

Here *rasa* means the *dravya* with the *rasa*s. All the first three *rasa*s are the result of the combination of the *bhoota*s in which *bhoomi* and *jala* (the two or either of the two) predominate. The body also is predominantly of the *bhoota*s *bhoomi* and *jala* – like increases and sustains are the laws of nature. The first three *rasa*s are *madhura, amla* and *lavana. Madhura* is the result of the predominance of *bhoota*s *bhoomi* and *jala, amla* of *bhoomi* and *agni* and *lavana* of *jala* and *agni.* There are difference of opinion that *amla* is because of *jala* and *agni* and *lavana* of *bhoomi* and *agni* and both are of *jala* and *agni* of the two *bhoota*s *jala* predominates in *amla* and *agni* predominates in *lavana.* These differences of opinion can be sustained in argument and do not in any way alter the effects produced by it in use as food or medicine. Here the *tantrayukti anumata* prevails, these different opinions have their own *anumana,* one not refuting the other. This can be, that also can be, is *anumata tantrayukti.*

42. भूयिष्ठमितरे विपरीताः ॥
भूयिष्ठं इतरे विपरीताः ।

(Mostly, the other three *rasa*s have opposite effects.)

The actions ascribed to the *rasa*s can have some difference due to the particularity of the *dravya,* where the *guna*, *vipaka*, *veerya* and *karma* (*prabhava*) contradict *rasa* in action. These particulars are explained later in this chapter. So with *rasa* alone, a *dravya* should not be

judged. Each *dravya* has to be studied particularly to judge its action and usefulness.

तस्माद्रसोपदेशेन न सर्वं द्रव्यमादिशेत् ।

(So by understanding the *rasa* alone, as explained in the text, one should not judge a *dravya*.)

In studying a *dravya,* the general knowledge as obtained from the text assist as guidelines. From whatever said in the text, whatever not said have to be inferred. Every inference can have difference of opinion but application and observation clear the doubts, as ayurveda in a practical science.

43. ते यतो येन यस्मिन् यच्च कुर्वते ते गुणाः
वीर्यमधिकरणं कर्म चेति ॥
ते यतः येन यस्मिन् यत् कुर्वते ते गुणाः
वीर्यं अधिकरणं कर्म च भवति इति ।

(The *rasa*s conditioned by which with which based on which perform some *karma* are the *guna*s, *veerya, dravya* and *karma*.)

कर्ता, करणं, अधिकरणं and कर्म these four are together called साधन चतुष्टयं. Here *rasa* with particular *guna* co-existing in the *dravya* is the *karta* (performer). When we say that *madhura* increases *kapha*, it means that *madhura* co-existing with the *gunas seeta, guru, snigdha* in the *dravya* increases *kahpa.* That which prompts them to act is *veerya.* Without *veerya,* no *rasa* with any *guna* will be able to act. *Karma* (the action) is the increasing of *kapha,* the *karma* will manifest only if all other things join together. *Veerya* manifests only when the *paka* is alright. *Paka* depend on the *gunas*. *Rasa* which is of the *dravya* assisted by the *guna* with the *veerya* which is generated by proper digestion (*paka*) performs the particular function. Here, the *adhikarana* is the body. It can be the *dravya* also.

44. यन्निष्पादयति तत् फलम् ॥
रसः यत् निष्पादयति तत् फलं ।

(That which the *rasa* fulfills is the effects.)

The end result of the *rasa* (the *dravya* which has the particular *rasa*) is *kshaya, vriddhi* or *samya* of the *dosha. Kshaya* means decrease, *vriddhi* means increase and *samya* means the equilibrium of the *dosha*s.

शमनं कोपनं स्वस्थहितं द्रव्यमिति त्रिधा ।

[The *dravya*s are classified as *samana,* that which decreases, *kopana,* that which increases, *svasthahita,* that which maintains (the balance of) the *dosha*.]

Samanadravya decreases the *dosha*s that is increased. If it is used even after reaching the balance, the *dosha* decreases causing the *kshaya. Kopanadravya* increases the *dosha* to *samya*. If it is further used, it rises up to the brim to spill over throughout the system causing disease. कोपस्तून्मार्गगामिता ।

Aryavaidyan Vol. XIV, No.1, Aug. - Oct. - 2000, Pages 52 - 56

EXCERPTS FROM CHIKITSAMANJARI – XXXII

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Abstract: Treatment of *prameha* is by and large management of its various complications. A detailed discussion is given here. Certain highly useful and effective combinations that can be prepared very easily are mentioned here.

TREATMENT OF *PRAMEHA*

1. Vitiated *kapha* gives rise to ten types of *prameha*. They are 1) *udakameha,* 2) *ikshumeha,* 3) *surameha,* 4) *pishtameha*, 5) *suklameha*, 6) *lalameha,* 7) *sanairmeha*, 8) *sikatameha,* 9) *seetameha* and 10) *sandrameha.*

2. *Pitta* is vitiated in the following *pramehas.* 1) *Manjishthameha,* 2) *neelameha,* 3) *kalameha,* 4) *haridrameha,* 5) *sonitameha*, 6) *ksharameha.*

3. Vitiation of *vata* causes the following *pramehas.* 1) *Vasameha,* 2) *majjameha,* 3) *hastimeha* and 4) *madhumeha.*

The fourth type, *madhumeha* is again subclassified to:- a) *dhatukshayaja* – originating due to depletion of *dhatus* and b) *doshavrita-patha* - caused by blockade of passage by *doshas.*

These are the 20 varieties of *prameha* and called by the name similar to the symptoms.

4. The ten *pramehas* that manifest due to vitiation of *kapha* can be cured and those caused by *pitta* can be managed. The four types of *pramehas*, caused by vitiated *vata* cannot be cured.

5. If the patient is *balee* (one who is able to sustain *sodhana* therapy), the initial treatment should be *vamana* and *virechana*. On the other hand, if he is weak, feeble or debilitated, all *samana* treatments are indicated.

6. Food, drinks, etc. prescribed to the one who suffers from *prameha* should neither increase *medas* (fats) nor should increase the flow of urine (diuretic). They should promote digestion and increase *bala* (strength) of the body.

7. Expressed juice from *nisa* (*Curcuma longa*) and *amalaki* (*Phyllanthus emblica*) in equal parts should be mixed with a small quantity of honey and consumed in the morning.

Alternatively, expressed juice from *amalaki* (*Phyllanthus emblica*) should be mixed with *kalka* of *rajani* (*Curcuma longa*) and consumed with the addition of a small quantity of honey.

8. Finely powdered *rajani* (*Curcuma longa*) mixed with an excess quantity of butter shall be licked by one who suffers from *meha.*

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Mrigasringam (horn of deer) ground with buttermilk shall be consumed which is considered good for *prameha.*

9. The seeds of *kataka* (*Strychnos potatorum*) in the size of one *aksha** mixed with buttermilk and honey cures *pramehas* complicated by *pidakas* (abscesses) very effectively.

Four to five seeds of *tettamparal* (*Strychnos potatorum*) should be crushed and kept in water overnight. This should be ground with fresh buttermilk and consumed in the morning for the relief of *prameha* and loss of control in passing urine. *Satavarigulam* (Sahasrayogam, *Lehaprakaranam*) shall be consumed.

10. *Chukku* (dry *Zingiber officinale*) is replaced with *manjal* (*Curcuma longa*) in the drugs of *shadanga* (treatment of *Jvara - sloka* 24) and roots of *ekanayaka* (*Salacia reticulata*) is added. Prepare a *kashaya* with these drugs and add a small quantity of sugar and honey. This may be taken for the cure of *prameha.*

11. A *kashaya,* prepared from the following, termed *Nisakatakadi kashaya* relieves *parmeha.*

Nisa	*Curcuma longa*
Kataka	*Strychnos potatorum*
Nellikka	*Phyllanthus emblica*
Techi	*Ixora coccinea*
Pachotti	*Symplocos laurina*
Bhadrika	*Aerva lanata*
Ekanayaka	*Salacia reticulata*
Ramacha	*Vetiveria zizanioides*

The drugs used in the above *kashaya* shall be added with drugs in *shadanga* and consumed for the relief from *jvara,* thirst and burning sensation.

12. A small quantity of sugar and honey is to be added to a *kashaya* prepared from the following and consumed. The proportion of the drugs is in equal parts.

Moovilaver	*Pseudarthria viscida* (root)
Mehari	*Salacia reticulata*

13. For the relief from different varieties of *prameha,* the following *kashaya* shall be taken with the addition of a small quantity of honey for a period of ten to fifteen days.

Maramanjal	*Coscinium fenestratum*
Irattimadhuram	*Glycyrrhiza glabra*
Triphala	
Katukka	*Terminalia chebula*
Nellikka	*Phyllanthus emblica*
Tannikka	*Terminalia bellirica*
Vari	*Asparagus racemosus*
Manjal	*Curcuma longa*
Nayakam	*Salacia reticulata*

14. A small quantity of honey is to be added to a *kashaya* prepared from the following and consumed at night for the relief of *prameha* associated with burning sensation.

Dvinisa	
Manjal	*Curcuma longa*
Maramanjal	*Coscinium fenestratum*
Vara	
Katukka	*Terminalia chebula*
Nellikka	*Phyllanthus emblica*
Tannikka	*Terminalia bellirica*
Abda	*Cyperus rotundus*
Dhananjayatvak	*Terminalia arjuna* (bark)
Katakasthi	*Strychnos potatorum* (seed)
Kulee	*Solanum indicum*
Nayakam	*Salacia reticulata*

*1 *aksha* = 14.58 gm

15. A *kashaya* prepared from the following to which a small quantity of honey is added should be taken for the relief from different varieties of *prameha.*

Katu	*Terminalia chebula*
Nelli	*Phyllanthus emblica*
Tanni	*Terminalia bellirica*
Katakam	*Strychnos potatorum*
Khadiram	*Acacia catechu*
Karuveppu	*Murraya koenigii*
Kimsukam	*Erythrina variegata*
Ubhe nise	*Curcuma longa*
	Coscinium fenestratum
Amrita	*Tinospora cordifolia*
Katalanchi	*Salacia reticulata*

16. A *kashaya* prepared from the following relieves *prameha* associated with polydypsia, *asthisrava* (pathological discharges from vagina) and burning micturition. This preparation is effective in *sleshmameha* (*prameha* caused by vitiation of *kapha*).

Kataka	*Strychnos potatorum*
Amalaka	*Phyllanthus emblica*
Trikanta	*Tribulus terrestris*
Jamboo	*Syzygium cumini*
Varee	*Asparagus racemosus*

Three drugs given below shall also be added to the above *kashaya* for enhanced effect.

Ekanayaka	*Salacia reticulata*
Chandana	*Santalum album*
Karingalikkatal	*Acacia catechu* (heart wood)

17. The *kashaya* prepared from the following is very effective in relieving *prameha* when consumed with the addition of honey.

Darvee	*Coscinium fenestratum*
Kapitthaniryasa	*Limonia accidissima* (resin)
Vara	
Katukka	*Terminalia chebula*
Nellikka	*Phyllanthus emblica*
Tannikka	*Terminalia bellirica*
Kataka	*Strychnos potatorum*
Kimsuka	*Erythrina variegata*
Chincha-phalatvak	*Tamarindus indica* (seed's skin)
Karpasabeeja	*Gossypium herbaceum* (seeds)
Varidhikothaka	*Sepiae officianalis*
Sveta-gunjaphala	*Abrus precatorius* (white) (seeds)

18-19.

Kataka kalka	*Strychnos potatorum* (paste)
Khadira sara	*Acacia catechu* (heart wood)
Kapitthaniryasa	*Limonia accidissima* (resin)
Ayomalam	*Ferroso-ferric oxide*
Meharibeeja	*Salacia reticulata* (seed)
Kumudabeeja	*Nymphaea nouchali* (seed)
Nisayugam	
Darvee	*Coscinium fenestratum*
Haridra	*Curcuma longa*
Kanta	Magnet
Silamadam	Bitumen
Karpasabeejam	*Gossypium herbaceum* (seed)
Udadhi-kothamoolam	*Sepiae officianalis*
Hareetaki	*Terminalia chebula*
Krishna	*Piper longum*
Dhananjayatvak	*Terminalia arjuna* (bark)

Drugs detailed above should be ground and made to a paste in the juice of *amalaka* (*Phyllanthus emblica*) and left over one day to become dry. This powder should be mixed with buttermilk and a small quantity of honey and consumed for the relief from *prameha.*

20-21. *Pramehas* caused by the vitiation of *pitta* are relieved by the following *kashaya.*

Bhadra-amghri	*Aerva lanata* (root)
Rajani	*Curcuma longa*
Dhatri	*Phyllanthus emblica*
Balaka	*Plectranthus vettiveroides*
Useera	*Vetiveria zizanioides*
Chandana	*Santalum album*
Nalikera-prasoonam	*Cocos nucifera* (inflorescence)

A *kashaya* prepared from the following is also very effective.

Lodhra	*Symplocos laurina*
Mehari	*Salacia reticulata*
Kataka	*Strychnos potatorum*

22. When consumed with a little honey, *kashaya* prepared from the following terminates *prameha* like *Dasarathi* (Lord Rama) killing *Dasanana* (Ravana).

Ksheeridru	
Atti	*Ficus racemosa*
Itti	*Ficus microcarpa*
Arayal	*Ficus religiosa*
Peral	*Ficus benghalensis*
Jamboo	*Syzygium cumini*
Arjunavalkala	*Terminalia arjuna* (bark)
Nisa	*Curcuma longa*

A *kashaya* prepared with the first six medicines (1½ *kazhanju** each) mentioned above and 3 *kazhanju ekanayakam* (*Salacia reticulata*) consumed with a little honey cures *prameha.*

23. A *kashaya* prepared from *meharimoola* (root of *Salacia reticulata*) and *kataka* (*Strychnos potatorum*) relieves *prameha.* (It also relieves polyuria.)

Milky latex from *sadaphala* (*Ficus racemosa*) mixed with honey on consumption relieves *prameha.* (It also cures polydypsia.) This combination is always very effective.

24. The following drugs, finely powdered should be ground well in the milky latex of *atti* (*Ficus racemosa*) to a paste. Regular consumption of pills prepared from it relieves *prameha.*

Karpasasthi	*Gossypium herbaceum* (seed)
Pulinkuruttoli	*Tamarindus indica* (seed's skin)
Vara	
Katukka	*Terminalia chebula*
Nellikka	*Phyllanthus emblica*
Tannikka	*Terminalia bellerica*
Ramacham	*Vetiveria zizanioides*
Aveeram	*Cassia auriculata*
Venkunnikkuru	*Abrus precatorius* (white) (seed)
Vilampasa	*Limonia accidissima* (resin)
Nisa	*Curcuma longa*
Kantam	Magnet
Tettamparal	*Strychnos potatorum*
Kallinmel-madam	Bitumen
Abhrakam	Mica

*1 *kazhanju* = 4.86 gm

25. The following, finely powdered should be ground in water to a paste and pills should be prepared. When taken with buttermilk, it relieves *prameha.*

Kimsukatvak	*Erythrina variegata* (bark)
Nisa	*Curcuma longa*
Dhatree	*Phyllanthus emblica*
Kataka	*Strychnos potatorum*
Vairee	*Salacia reticulata*

26. The following drugs, finely powdered should be mixed with the milky latex of *atti* (*Ficus racemosa*) and ground to a paste for seven days. Pills rolled from it cures different types of *pramehas*. The pill is known as *Neerooryadi gulika.*

Neeroori	*Phyllanthus reticulatus*
Vairee	*Salacia reticulata*
Teli	*Strychnos potatorum*
Sooka	Jelly fish
Pulinkuruttol	*Tamarindus indica* (seed's skin)
Mukka	
Katukka	*Terminalia chebula*
Nellikka	*Phyllanthus emblica*
Tannikka	*Terminalia bellerica*
Vilampasa	*Limonia accidissima* (resin)
Ambalari	*Nymphaea nouchali* (seed)
Kanta	Magnet
Chemman	Red ochre
Nisadvaya	
Haridra	*Curcuma longa*
Daruharidra	*Coscinium fenestratum*
Hima	*Santalum album*
Sita	Sugar

Alternatively, finely powdered above medicines (drugs of *Neerooryadi gulika*) should be made to a *kalka* by mixing in tender coconut water and consumed with tender coconut water. In this preparation *vairee* (*Salacia reticulata*), *teli* (*Strychnos potatorum*), *sookam* (Jelly fish) should be excluded.

The drugs of *Kimsukatvakadi* (*sloka* 25) and drugs of *Neerooryadi* are powdered and ground in tender coconut water and rolled in to pills. This pills when consumed with fresh butter milk relieves *prameha.*

Vaidyaratnam P.S. Varier's

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Aryavaidyan Vol. XIV, No.1, Aug. - Oct. - 2000, Pages 58 - 60

भोजन - व्यवस्था

वैद्यविशारद रामुण्णि मेनोन, पि.के.

Abstract: Everybody knows that balanced diet is absolutely necessary for keeping good health. But most of them fail to keep a good food-habit leading to ill health and disease. This article, by Ramunni Menon contained in the Dhanwantary (Book 16, No. 3) stresses on the need for sticking to a good food-habit, is reproduced here in translation.

आजकल लोग बिना व्यवस्था के अपनी इच्छा के अनुसार जो मिलता है वह खाते है। भोजन के लिए ही नहीं सभी कार्यकलापों के लिए किसी नियम का अनुसरण करना बड़ी सुविधाजनक है। इस से कोई दोष नहीं, गुण मात्र होता है।

इस में शक नहीं कि मनुष्य के जीवन की सफलता पूर्ण रूप से स्वस्थ व दीर्घायु रहना ही है। इस के लिए हमें अपने दैनिक कार्यकलापों में नियमों के अधीन रहने की ज़रूरत है। दैनिक कार्यकलापों में मुख्य बात भोजन है। इसलिए हमारे कर्तव्यों में मुख्य स्थान पर भोजन ही आता है। अतः हम देखें कि स्वास्थ्य की बातों की व्याख्या करनेवाले अयुर्वेद में भोजन के बारे में क्या कहा है।

भोजन के बारे में बताने से पहले हम सोचें कि भोजन को पचाने में सहायक जठराग्नि का क्या काम है। व्यक्ति के जठराग्नि को चार भागों में विभाजित किया जाता है। १) मन्द, २) तीक्ष्ण, ३) विषम और ४) सम। सभी आयुर्वेद सिद्धान्तों की आधार शिला वात, पित्त, कफ आदि त्रिदोष है। इन के उतार-चढ़ाव के अनुसार जठराग्नि में यह अन्तर दीखता है। मन्दाग्नि उसे कहते है जो लघुतम चीज़ों को भी धीरे धीरे पचाती है। इसका उल्टा है तीक्ष्णाग्नि जो गुरुतम चीज़ों को भी जल्दी पचाती है। विषमाग्नि का काम नियत नहीं। कभी वह लघुतम खाद्यपदार्थों को धीरे धीरे पचाती है, तो कभी वह गुरुतम खाद्यपदार्थों को भी जल्दी पचाती है और कभी वह ठीक ढंग से पचाने का काम करती है। लेकिन समाग्नि वह है जो विधिपूर्वक भोजन को ठीक ढंग से पचाती है। जठराग्नि की यह मन्दता, तीक्ष्णता और विषमता, समता से कम ही है। इस के बदले किसी कारण से अधिक मन्दता, तीक्ष्णता और विषमता के आने पर, वह 'मन्दाग्नि' नामक भीषण बीमारी का कारण बन जाता है।

"सायं प्रातर्मनुष्याणां भोजनं विधिनिर्मितम्"।

नामक श्लोक के आधार पर आदमी को दो बार ही खाना खाने का नियम है। सबेरे और रात को करीब नौ या दस बजे के पहले, दोनों बार भोजन करना है।

अनुवादः श्री. तत्तोत्त बालकृष्णन, मय्यन्नूर, बटकरा, कोजिक्कोट, केरल.

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इस का आशय है कि नियमानुसार खानेवाला एक बार का भोजन पचाने के लिए चार याम याने बारह घण्टे चाहिए और एक बार जो दवा पी गयी है उस की मात्रा को पचाने के लिए दो याम याने छः घण्टे चाहिए । यह समाग्नि की बात है । मन्द, तीक्ष्ण, विषमाग्निवालों के पचाने के समय में उतार-चढ़ाव संभव है । ऐसे लोगों को खाने की चीज़ों की मात्रा को बदलना चाहिए ।

इस प्रकार दो बार मात्र खाकर स्वस्थ रहनेवाले कई बूढ़े इस ज़माने में भी देखे जा सकते हैं । लेकिन आज के नौजवान नियम के विरुद्ध तीन, चार, पाँच या दस बार भोजन करते हैं । इतनी अधिक बार खाने पर पचाने के लिए उपर्युक्त समय नहीं लगता । दो बार खानेवाले को एक बार के खाने की चीज़ों की मात्रा करीब बारह घण्टे के अन्तराल पर रखना चाहिए । जो दो से अधिक बार खाना खाते है उन को कम मात्रा में ही खाना चाहिए जिस से वह कम समय के अन्दर पच सके । इस तरह अधिक बार खाने की आदत डालने पर जठराग्नि की सहन-शक्ति, दृढता व पचाने की शक्ति कम होती है । साथ ही शरीर के क्लेशों को सहने की शक्ति आदि कई गुण नष्ट होते हैं । और भी है की खाने बिना लंबी काम करने की ताकत उन लोगों को नहीं होते है । अगर ऐसे काम है तो खाने कि चीज़ों उनके पास में रखना पडेगा । नवीन आचार्यों का मतलब है की एक ओषध मात्रा पाचन कराने को तीन घण्टा काफि होति है । ऐसे है तो उनका कारण भी ऊपर में बताया हुआ मात्रा की अन्तर हि है ।

अब हम विचार करें कि दो बार खानेवाले भोजन की मात्रा क्या होनी चाहिए । भोजन मुँह से उतर कर पहले पहुँचनेवाले पेट के स्थान को चार भागों में बाँटा जाता है तो नियम है कि उन में दो भाग भोजन के लिए, एक भाग पानी के लिए और बाकी एक भाग वायु का गमन केलिए होता है। याने हमारे खाने पीने की एक मात्रा, पेट में भोजन पहुँचनेवाली थैली के चार भागों में तीन भागों को पूरा करनेवाली होनी चाहिए । मानसिक सन्तोष के आधार पर कहें तो एक व्यक्ति को जितना भोजन करने पेट पूर्ण रूप से 'तृप्ति' प्राप्त हो जाए उस का आधा याने 'अर्धतृप्ति' का अनुभव होने तक गुरुत्व चीज़ों को खाना चाहिए । यही गुरुत्व चीज़ों का मात्रा है ।'तृप्ति' भाव होने तक लघुत्व चीज़ों खानी चाहिए । यही लघुत्व चीज़ों का एक मात्रा है । भोजन की मात्रा का यह विभाजन अर्धतृप्ति आदि से अनुमान करना है । विभाजन की कल्पना से भोजन की वस्तुवों का, अर्धतृप्ति आदि से गुरु, लघु चीज़ों की मात्रा का अनुमान कर सकते हैं । प्रत्येक व्यक्ति के खाद्यपदार्थों की मात्रा, उस के अग्निबल (पचाने की शक्ति) आदि के आधार पर भिन्न होती है । इसलिए यह विभाजन सामान्य रूप से किया गया विवरण मात्र है ।

नियत समय में खाद्यपदार्थों को ठीक और बिना कठिनाई से पचाना चाहिए । भोजन के बाद यह हाल न हो जाय कि पेट के बहुत भरने के कारण साँस लेने में कठिनाई का होना या ठीक ढंग से चल नहीं पाना, बैठ नहीं सकना अथवा लेट नहीं सकना । यही मात्रा का सूक्ष्म सिद्धांत है । प्रत्येक व्यक्ति के खाद्यपदार्थों की मात्रा आदत के अनुसार निश्चित किया जा सकता है ।

खाने के समय पर खाना आवश्यक है । यहाँ खाने के समय का अर्थ सिर्फ यह नहीं कि सबेरे या शाम को नौ बजे या दस बजे है । इस का सही अर्थ है कि भूख आदि लगाने पर; यही विज्ञान में बताये गये लक्षणवाला समय है । साधारणतया नौ या दस बजे में भूख नहीं लगती तो समझना चाहिए कि उस के पहले जो खाना खाया है उस की मात्रा में अधिकता है, और वह भोजन ठीख से नहीं पचा है । इसलिए, खाने के विशेष समय पर आगे हम विचार करें ।

खाने के पहले मल मूत्र विसर्जन करना चाहिए। हृदय निर्मल हो ; तथा शरीर में वात आदि दोष अपने अपने स्थान पर हो; प्रधानतया वायु शरीर में अनुकूल गति में हो; खट्टी डकार को आने न दें। भूख उस तरह होना चाहिए कि जठराग्नि जलती ही रहे। आँख आदि इन्द्रिय निर्मल हो; शरीर में लघुत्व (हल्कापन) हो; इस तरह की अवस्था में खाना खाना चाहिए। यही खाने का समय है।

खाना खाने की कुछ विधियाँ होती हैं। नहाने के बाद खाना खाने चाहिए। खाने के पहले ईश्वर और पूर्वजों को प्रार्थना करने चाहिए। अपने आश्रय में रहनेवाले गुरुजन, अतिथियाँ, लडके लडकियाँ आदियों को पहले खिलाना चाहिए। उसि तरह देखें कि पालन करनेवाली चिडियाँ जैसी जीवजन्तुओं को खाना मिला या नहीं, नहीं तो उनको खिलाने की आयोजना करनी चाहिए। उस के बाद हाथ मुँह धोकर एक विजन स्थान में अपने एक या दो प्रियजनों के साथ खाने के लिए बैठना चाहिए। खाना पकाकर परोसने वाले नौकर का देह,मन आदि शुद्ध होना चाहिए। वह भूखा न हो। भोजन की वस्तु गन्दी न हो; साधारणतया परिचित हो; देश, काल, प्रकृति आदि के अनुसार हितकारक चीज़ों से बने हो; गरम हो, घी आदि स्निग्ध चीज़ें मिली हुई हो, षड्रसोंवाली हो, पर उन रसों में मीठापन ज़्यादा हो; और खुद को पसंद होनेवाला हो, सद्रव भी हो। ऐसे भोजन को मन लगाकर ध्यान से खाना चाहिए। ज्यादा जलदी से यानि बहूत विलंबी से नहीं खाना चाहिए। खाते वक्त न बोलें और न झगडा करें। सामने खाद्यपदार्थों में अतृप्ति के कारण रोष भाव रखना या उस के बारे में बकबकाना उचित नहीं। एक साधारण स्वस्थ आदमी को जिन नियमों का पालन करना चाहिए उन के बारे में यहाँ बताया गया है। मरीजों को अपनी बीमारी के स्वभाव के अनुसार भोजन-व्यवस्था में आवश्यक परिवर्तन करना पडेगा।

अब एक स्वस्थ आदमी के लिए आवश्यक खाद्यपदार्थों के बारे में जानकारी नीचे दिया जाता है।

गेहुँ, यव, षाष्टिक, धान आदि विशिष्ट धानों और मूँग, आँवला, अंगूर, चीनी, गाय कि दूध और घी, चिचिडा, दाड़िम, शहद, जाँगल माँस, शुद्ध जल, सैन्धानमक आदि चीज़ों में जो अपने को पसंद है या परिचित है उन्हें खाना चाहिए। ऐसे कुछ लोग होते हैं जो पकाये हुए खाना नहीं खाते; प्रकृति में मिलनेवाले फल आदि खाते हैं। लेकिन आग में पकाये हुए खाद्यपदार्थ स्वादिष्ट तथा मानसिक सन्तोष देनेवाले हैं। इस में शक नहीं कि पकाये हुए पदार्थों को खाने से शरीर स्वस्थ तथा पौष्टिक होता है। माँस खाद्यपदार्थों की सूची में आता है। पर माँस को प्राप्त करने के लिए हिंसा का सहारा लेना पडता है। हिंसा महा पाप है। धर्म-शास्त्र में हिंसा मना है। इसलिए माँस खाना नीच है और त्याज्य भी है। यद्यपि हमारे आचार्य स्वास्थ्य विज्ञान में कुशल है तो भी अधर्म-निषिद्ध स्वास्थ्य पर ही वे बल देते हैं। इसलिए माँस को छोडना ही चाहिए। बदले स्वास्थ्य-कारक तरकारियाँ, घी, दूध आदि ही अच्छे खाद्यपदार्थ है।

उपर्युक्त नियमों का पालन किये बिना हमेशा खाने के आदतवाले व्यक्ति पेटू होते हैं जो भयंकर बीमारियों का शिकार बन जाते हैं। यदि ऐसे लोग कोई बीमारी से मुक्त हैं तो समझना चाहिए कि वह उन का भाग्य है। 'संग्रह' आदि में वर्णित भोजन की विधियों के एक शतांश भी यह विवरण नहीं होता। लेकिन विस्तार के भय से इतना लिख कर खतम करता हुँ।

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गण्डूष

शंकुण्णि वारियर, ई.

Abstract: A practice, *gandhoosha,* filling the mouth with medical formulations, is used in ayurveda for treating various disorders found in mouth and throat. This article gives details of the practice. Selection of *dravya* according to its *rasa* to suit the disease-conditions, according to the *dosha* predominance is also discussed. An article by Sankunni Varier published in Dhanwantary (Book 13 , No.11) is reproduced here in translation.

मुँह और चेहरे को बीमारियों से बचाने के लिए और इन अवयवों पर होनेवाली बीमारियों की इलाज के तौर पर, बीमारियों के अनुरूप घोल बना कर कुल्ला करने को 'गण्डूषं' कहते हैं। यह चार प्रकार से है - स्निग्ध, शमन, शोधन और रोपण। स्निग्ध में खट्टी, मीठी, नमकीन औषधीयाँ मिलाकर उबाले तेल या घृत का उपयोग होता है। शमन गण्डूष तिक्त, कड़वी, मीठी रस से होती है। शोधन गण्डूष तो कड़वी, नमकीन, खट्टी, तीखी रसवाली और उष्णतावाली दवाओं से बनाया जाता है। रोपण तिक्त, तीखी दवाओं से बनाता है। शास्त्रों में बताया गया है कि वात संबन्धी बीमारियों में स्निग्ध, पित्त - बीमारियों में शमन, कफ में शोधन और मुँह आदि अवयवों के व्रणों में रोपण का प्रयोग होना चाहिए।

ऊपर बताये गए गण्डूषों में तेल, घृत आदि स्नेहद्रव्यों, दूध, मधु, स्वच्छ जल, शुक्त, शराब, माँस रस, गोमूत्र, धान्याम्ल आदि के साथ प्रत्येक बीमारी के लिए यथोचित दवा मिला कर या पकाकर घोल बना लें और उचित ताप में उसका उपयोग करें। दांतों का हिलना, जडता, वातजन्य मुख रोग आदि में तिल कूट कर स्वच्छ जल के साथ गरम करके, गरम या ठंडा, कुल्ला करने से आराम मिलता है। ऊपर बतायी गयी बीमारियों से बचने के लिए तेल या माँस रस से कुल्ला करना अच्छा है। प्रादेशिक या सारे शरीर में गरमी पैदा करनेवाले व्रण का पीव, अचानक शरीर पर पड़नेवाले मार और छुरी से होने व्रण, विष, क्षार या आग से उत्पन्न जलन आदि में घी या दूध से कुल्ला करने पर क्षण में आराम मिलता है। मधु से कुल्ला करने पर मुख शुद्धि के साथ मुख के व्रणों से भी छुटकारा मिलता है। गर्मी और प्यास भी मिट जाती है। धान्यम्ल से कुल्ला करें तो मुख की गंदगी, बदबू और रुचिहीनता दूर होती है। धान्याम्ल में सैन्धव मिला कर कुल्ला करें तो मुँह सूखने की बीमारी दूर होती है। गले में और मुँह में कफ की अधिकता को कम करने के लिए क्षार जल से कुल्ला करना अच्छा है। सुखोष्ण जल से कुल्ला करने पर मुख हलका होता है।

गण्डूष की दवाएँ, बनाने की रीति, उनके असर आदि के बारे में बहुत बातें कही जा सकती है। अब

अनुवादः डॉ. पी. के. राधामणि, मलबार क्रुस्त्यन कोलज, कालिकट ६७३ ००१.

गण्डूष के उपयोग की रीति भी संक्षेप में बताता हुँ ।

गण्डूष धारण के लिए तैयार होनेवाला व्यक्ति ऐसी जगह जाकर बैठें जहाँ धूप और हवा न हो । फिर पसीना छूटने तक कंठ और स्कंधों की मालिश करें । ऐसा करने से इन स्थानों में जमा कफ निकल आता है और उसे बाहर निकलना आसान होता है । इसके बाद बीमार का मुख थोडा ऊपर करके गण्डूष का घोल मुँह में भरें । विशेष ध्यान रखें कि दवा ज़रा भी अन्दर न जाएं । दवा मुँह में भरने के बाद रोगी निश्चल बैठे रहें । मुँह में कफ भर जाना, नाक और आँखों से पानी निकलना आदि लक्षण प्रकट हो जाएं तो दवा थूक दें । इन लक्षणों के प्रकट होने के बाद दवा मुँह में नहीं रखनी चाहिए ।

कुल्ला करने के लिए गण्डूष, कबल आदि दो रीतियाँ हैं । मुँह में दवा पूरा भरने को गण्डूष कहते है । कबल में रोगी दवा को मुँह में इधर उधर हिला सकता है । अलग-अलग बीमारियों में इनका अलग प्रयोग होता है । कंठ के पीछे के मन्या नामक स्नायु, सिर, आँख, कान, चेहरा आदि अवयवों की बीमारियों के अलावा मुँह में पानी भरना, मुँह सूखना, प्रसेक, आलस्य, रुचिहीनता, पीनस आदि में कबल से आराम मिलता है, अन्यत्र गण्डूष ही उचित है ।

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From

To

Chief Editor,
Publication Department,
ARYA VAIDYA SALA,
KOTTAKKAL 676 503,
Malappuram Dist.,
Kerala

Printed at the Mathrubhumi M.M.Press and published by Aryavaidyan P.K.Warrier, Managing Trustee Arya Vaidya Sala, Kottakkal for and on behalf of Arya Vaidya Sala, Kottakkal.

Chief Editor: Aryavaidyan N.V.K. Varier, M.A.

Type Setting: Publication Department, Arya Vaidya Sala

āryavaidyan

Aryavaidyan is an international Journal for the encouragement and elucidation of the most ancient system of medicine, Ayurveda and its contemporary practice. This quarterly of the Arya Vaidya Sala, Kottakkal, is a publication entirely devoted to the cause of Ayurveda and allied subjects such as ethnomedicine, naturopathy, siddha, unani and modern medicines. This is the one and only periodical for scholars, practising physicians, students and lovers of the subject.

Vol.XIV, No.1 Regn. No. 55127/87 August - October 2000

HINDI