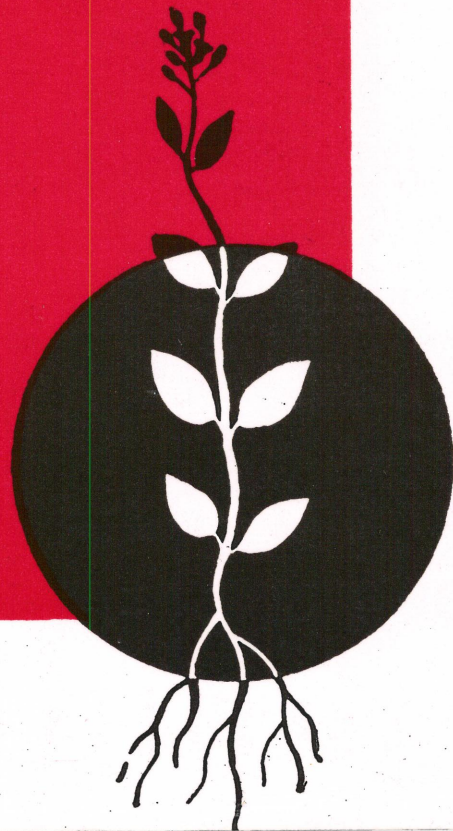


ISSN 0970-4086

Vol. XIV. No. 2
November - January 2001

āryavaidyan



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A Quarterly Journal of the
Arya Vaidya Sala, Kottakkal

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सतताध्ययनं, वादः परतन्त्रावलोकनम् ।
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FROM THE PAGES OF VAGBHATA - LIII

Varier, N.V.K.

Abstract: Elaborate discussion on *uttaravasti* including both urethral and vaginal procedures are detailed here. The prime importance of *vasti* among all types of *kriyakramas* is highlighted.

वस्तौ रोगेषु नारीणां योनिगर्भाशयेषु च ।
द्वित्रास्थापनशुद्धेभ्यो विदध्याद्वस्तिमुत्तरम् ॥ ७० ॥

(*Vastau rogeshu nareenam
yonigarbhasayeshu cha ।
dvitrasthapanasuddhebhyo
vidadhyadvastimuttaram ॥ 70 ॥*)

In diseases of the bladder and in diseases of vagina and uterus *uttaravasti* (urethral or vaginal enema) is to be administered after purifying these organs with two or three decoction enemas.

आतुराङ्गुलमानेन तन्नेत्रं द्वादशाङ्गुलम् ।
वृत्तं गोपुच्छवन्मूलमध्ययोः कृतकर्णिकम् ॥ ७१ ॥
सिद्धार्थकप्रवेशाग्रं श्लक्ष्णं हेमादिसम्भवम् ।
कुन्दाश्वमारसुमनःपुष्पवृन्तोपमं दृढम् ॥ ७२ ॥
तस्य वस्तिर्मुदुलघुर्मात्रा शुक्तिर्विकल्प्य वा ।

(*Aturangulamanena tannetram
dvadasangulam ।
vrittam gopucchavanmoola
madhyayoh kritakarnikam ॥ 71 ॥
Siddharthakapravesagram slakshnam
hemadisambhavam ।
kundasvamarasumanh*

*one *angula* = a finger's (of the patient) breadth

** one *sukti* = 24 gms

*pushpavrintopamam dridham ॥ 72 ॥
Tasya vastirmridulaghurmatra
suktirvikalpya va ।)*

The *netra* (nozzle) should be twelve *angulas** in length. It should be tubular and will resemble the tail of a cow with ridges at the bottom and middle. The tip should have an opening that can allow passage of a mustard seed. It should be smooth and made by metals like gold, silver, etc. It should be firm and resembling the flowers of *kunda* (*Jasminum multiflorum*), *asvamar* (*Nerium oleander*) and *sumana* (*Jasminum grandiflorum*). The bladder which is to be attached to the *netra* should be light and smooth. The dose of the *sneha* is one *sukti*** , or it may be decided considering the age, strength, nature of the body, *satva*, *satmya* (acquaintance), etc.

अथ स्नाताशितस्यास्य स्नेहवस्तिविधानतः ॥ ७३ ॥
ऋजोः सुखोपविष्टस्य पीठे जानुसमे मृदौ ।
हृष्टे मेढ्रे स्थिते चर्जौ शनैः स्रोतोविशुद्धये ॥ ७४ ॥
सूक्ष्मां शलाकां प्रणयेत्तया शुद्धेऽनुसेवनि ।
आमेहनान्तं नेत्रं च निष्कम्पं गुदवत्ततः ॥ ७५ ॥

(*atha snatasitasyasya
snehavastividhanatah* || 73 ||
*Rijoh sukhopavishtasya peethe
janusame mridau* |
*hrishthe medhre sthite charjau
sanaih srotovisuddhaye* || 74 ||
*Sookshmam salakam pranayettaya
suddhesnusevani* |
*amehanantam netram cha
nishkampam gudavattatah* || 75 ||)

Then (after doing the auspicious rites), the patient having taken bath and food (in the same order of the procedure of *anuvāsana*) is seated on a soft seat, which is as high as the knee. Then the penis is made erect and straight. Insert a thin probe very slowly for clearing the path. Insert the *netra* along the line of suture to the whole length of the urethra (till the cavity of the urinary bladder is reached), without any tremor to the hand, and when the *sneha* pushed in has reached inside properly, follow the order of *anuvāsana* mentioned earlier.

पीडितेऽन्तर्गते स्नेहे स्नेहवस्तिक्रमो हितः ।
वस्तीननेन विधिना दद्यात्त्रींश्रुतुरोऽपि वा ॥ ७६ ॥
अनुवासनवच्छेषं सर्वमेवास्य चिन्तयेत् ।

(*Peeditesntargate snehe
snehavastikramo hitah* |
*vastinanena vidhina dadhyat-
trimschaturrospi va* || 76 ||
*Anuvasanavacchesham
sarvamevasya chintayet* |)

Administer three or four *vastis* in this order. All further proceedings are to be planned as described in the case of *anuvāsana*.

Here Arunadatta quotes Kharanada that when the entire *sneha* is administered, it is to be equal to half a *pala* in volume. When *sneha* comes back, give again a second *vasti*

or a third *vasti* as per the conditions. If the *sneha* retains, perform the following special procedure. Take *Pippali* (*Piper longum*) *Aragvadha* (*Cassia fistula*), *Agaradhooma* (soot on the attic of kitchen), *Valsaka* (*Holarrhena antidysenterica*), *Saindhavam* (rock salt), and grind them to a paste in cow's urine and sour liquids. Then roll them into pills of two sizes. One, which is equal to the size of mustard seeds and the other which is equal to the size of blackgram seeds and get them dried in shade. At first, insert the mustard-sized pill in the ureter and afterward the blackgram sized pill. The stimulation they create forces the *sneha* to come out. When the *sneha* comes out, do the procedures as suggested in *anuvāsana*.

स्त्रीणामार्तवकाले तु योनिर्गृह्णात्यपावृतेः ॥ ७७ ॥
विदधीत तदा तस्मादनृतावपि चात्यये ।
योनिविभ्रंशशूलेषु योनिव्यापद्यसृग्दरेः ॥ ७८ ॥

(*streenamartavakale tu
yonirgruhnatyapavruteh* || 77 ||
*Vidadheeta tada tasmad-
nrutavapi chatyaye* |
*yonivibhramsasooleshu
yonivyapadyasrukdareh* || 78 ||)

The proper time for performing *uttaravasti* through the vagina is during the menstrual period, because at that period the uterus is opened naturally and easily holds the *sneha*. (Menstrual period is twelve days since the beginning of menstruation.) But in emergency conditions like *yonivibhramsa* (prolapsed uterus), *yonisoola* (painful conditions of the vagina or uterus), *yonivyapt* (diseases described in the chapter of *Guhyarogavijnaneeyam* - Ashtangahridayam, *uttarastanam* 33) and in the disease named *asrigdhara* (a menstrual disorder), it has to be performed irrespective of the menstrual cycle.

नेत्रं दशाङ्गुलं मुद्गप्रवेशं चतुरङ्गुलम् ।
 अपत्यमार्गे योज्यं स्याद् द्व्यङ्गुलं मूत्रवर्तमनि ॥ ७९ ॥
 मूत्रकृच्छ्रविकारेषु, बालानां त्वेकमङ्गुलम् ।
 प्रकुञ्चो मध्यमा मात्रा, बालानां शुक्तिरेव तु ॥ ८० ॥

(*Netram dasangulam mudga-
 pravesam chaturangulam ।
 apatyamarge yojyam syad
 dvyangulam mootravartmani ॥ 79 ॥
 Mootrakrucchravikareshu,
 balanam tvekamangulam ।
 prakuncho madhyama matra,
 balanam suktireva tu ॥ 80 ॥*)

The *netra* for *uttaravasti* through the vagina should be ten *angulas* in length, and its opening should be of the size that permits the entry of a seed of *mudga* (greengram). It has to be inserted into the vaginal passage up to a length of four *angulas*. In cases like *mootra-krichra* (dysuria) it has to be inserted in the urethra up to two *angulas* and in children only up to one *angula*.

The medium dose of enema liquid is one *prakuncha**. For children it is one *sukti*.

उत्तानायाः शयानायाः सम्यक् सङ्कोच्य सक्थिनी ।
 ऊर्ध्वजान्वास्त्रिचतुरानहोरात्रेण योजयेत् ॥ ८१ ॥
 वस्तींस्त्रिरात्रमेवं च स्नेहमात्रां विवर्द्धयन् ।
 त्र्यहमेव च विश्रम्य प्रणिदध्यात्पुनस्त्र्यहम् ॥ ८२ ॥

(*Uttanayah sayanayah samyak
 sankochya sakhinee ।
 oordhvajanvastrichaturana-
 horatrena yojayet ॥ 81 ॥
 Vastimstriratrimevam cha
 snehamatram vivarddhayan ।
 tryahameva cha visramya
 pranidadhyatpunastryaham ॥ 82 ॥*)

The woman should lie supine with her

legs folded at the knees and kept erect to be administered three or four *vastis* (vaginal or urethral enema) in one day. This is to be continued only for three days. The quantity of *sneha* (the enema liquid) is to be increased day by day. Then, after allowing rest for three days again repeat the procedure for another three days.

The quantity of *vastidrava* is increased in the order, half *karsha*** on the first day, one *karsha* on the second day, etc., but this is for three days only (vide Arunadatta).

पक्षाद्विरेको वमिते ततः पक्षान्तिरूहणम् ।
 सद्यो निरूढश्चान्वास्यः समरात्राद्विरेचितः ॥ ८३ ॥

(*Pakshadvireko vamite tatah
 pakshanniroohanam ।
 sadyo niroodhaschanvasyah
 saptaratadvirechitah ॥ 83 ॥*)

Do purgation therapy after a fortnight of emesis therapy, and *nirooha* (decoction enema) is to be performed only after another fortnight of purgation. *Anuvasana* is to be done immediately after *nirooha*, but it should be only after the lapse of seven days of a purgation therapy.

After an emesis with maximum bouts, some days are required for following the dietetic order starting from thin gruel (*peya*), etc. and gradually resorting to the normal diet. Then another seven days are required for doing *snehana* (oleation) and *svedana* (sudation). So *vireka* (purgation) can be resorted to only on the fifteenth day. *Nirooha* is to be performed only after fifteen days of a purgation therapy. *Anuvasana* can be done immediately to one who has undergone a *nirooha*. *Snehavasti* ought to be done to one who has taken purgation therapy after seven days.

* one *prakuncha* = 48 gm

**one *karsha* = 12 gm

यथा कुसुम्भादियुतात्तोयाद्रागं हरेत्पटः ।
तथा द्रवीकृतादेहाद्वस्तिर्निर्हरेते मलान् ॥ ८४ ॥

(*Yatha kusumbhadiyutattoyad-
ragam haretpatah ।
tatha draveekritaddehad-
vastirnirharate malan ॥ 84 ॥*)

As a cloth absorbs the colour from water boiled with flowers of *kusumbha* (*Carthamus tinctorius*) or saffron or other colouring materials, in the same way *vasti* separates and takes away the impurities.

शाखागताः कोष्ठगताश्च रोगा
मर्मोर्ध्वसर्वावयवाङ्गजाश्च ।
ये सन्ति तेषां न तु कश्चिदन्यो
वायोः परं जन्मनि हेतुरस्ति ॥ ८५ ॥

(*Sakhagatah kosthagatascha roga
marmordhvasarvavayavangajascha ।
ye santi tesham na tu kaschidanyo
vayoh param janmani heturasti ॥ 85 ॥*)

Whatever are the diseases that are formed based on the *sakhas*, *koshtha*, *marmas*, upper parts of the body, all organs in general or separate organs, there is no other cause other than *vata*.

The three paths of diseases were explained earlier as *sakhas* (These are the bases of tissues from *rakta* onwards up to *sukra* and *tvak*.), *koshtha* (alimentary canal) and *asthisandhis* (bones, joints etc.). They are known as external paths. *Koshtha* belongs to the internal path and *asthisandhis* are the middle paths. Although many other causes may be apparent, the diseases affecting the *marmas* (vital parts), *oordhvamgas* (organs of upper parts above the neck), all separate organs of the body and all organs in general are all in fact created primarily by *vata*.

Ayurveda holds that *vayu* is the motive force which creates and promotes all actions of the organism in normal and in pathological conditions. Symptoms of diseases may manifest vitiated conditions of *pitta* and *kapha* and hence may lead us to diagnose this as a *pitta* or *kapha* disease, but it is said that the basic cause of their upsetting is also a creation of *vata*.

Pitta is lame, *kapha* is lame, the *mala* (urine, sweat, faeces etc.) and the seven *dhatus* are all lame. Where the *vayu* impels them to go they move, as the clouds are lead where *vayu* (wind) forces them to go.

So, in pathological condition also it is *vata* that manages or controls the course and condition of the disease. Therefore the basic step in treatment is to bring *vata* in order.

विदृश्लेषमपित्तादिमलोच्चयानां

विक्षेपसंहारकरः स यस्मात् ।

तस्यातिवृद्धस्य शमाय नान्य-

द्वस्तेर्विना भेषजमस्ति किञ्चित् ॥ ८६ ॥

(*Vitsleshmapittadimalocchayanam
vikshepasamharakarrah sa yasmat ।
tasyativruddhasya samaya nanyad-
vastervina bsheshajamasti kimchit ॥ 86 ॥*)

Since *vata* is the one that prompts *kapha*, *pitta* and other *malas* to move to the seats of others and to return to one's own seat, there is no medicine other than *vasti* for its pacification when it is increased excessively.

Although diseases are created by the entry of vitiated *pitta*, *kapha* and *malas* to the seats of others, they are not to be taken as the causative agents of diseases because their movements for entries and oustings are done by *vata*. The

movements of everything concerned with the body are due to *vata*. So *vata* is the basic cause of all diseases. If that *vata* is increased, no other medicine or technique is capable to control it other than *vasti*. Since *vata* is the cause of all diseases and since *vasti* is the only medicine to conquer it, *vasti* is considered as the treatment for all diseases.

तस्माच्चिकित्सार्द्ध इति प्रदिष्टः

कृत्स्ना चिकित्साऽपि च वस्तिकैः ।

तथा निजागन्तु विकारकारि-

रक्तौषधत्वेन शिराव्यधोऽपि ॥ ८७ ॥

(*Tasmacchikitsarddha iti pradishtah
krutsna chikitsaspi cha vastirekaih ।
tatha nijagantuvikarakari-
raktaushadhatvena siravyadhospi ॥ 87 ॥*)

Therefore it is implied that half of the whole realm of treatment belongs to the administration of *vasti*. Others hold that *vasti*

is to be considered as the full treatment comprising the whole realm of treatment. In the same way since *siravedha* (venesection) is the treatment for all diseases caused by *rakta* in a self originated way or due to affections from outside agents, it is also given equal status, as per the opinion of others.

इति श्रीवैद्यपतिसिंहगुप्तसूनुश्रीमद्वाग्भटविरचिताया-
मष्टाङ्गहृदयसंहितायां सूत्रस्थाने वस्तिविधिर्नामैको-
नविंशतितमोऽध्यायः ॥

(*Iti sreevaidyapatisimhaguptasoonusrimad-
vagbhatavirachitayamashtangahrudaya-
samhitayam sootrasthane vastividhirnamaiko-
navimsatitamodhyayah ॥*)

This is the nineteenth chapter titled the order of *vasti* in the *suthrasthana* of *Ashtamgahridayasamhita* composed by *Vagbhata*, the son of *Vaidyapati Simhagupta*.

PHARMACOGNOSTICAL STUDIES ON *ORILATTAMARA* (*NERVILIA ARAGOANA* GAUD.)

Krishnan Nambiar, V.P., Jayanthi, A. and Sabu, T.K.*

Abstract: The present study focuses mainly on pharmacognosy, chemical analysis and propagation techniques. In pharmacognosy anatomy, floral biology and floral vasculature are described in detail. Numerical values like stomatal index, palisade ratio and vein-islet number is also dealt with.

Introduction

Nervilia aragoana belonging to the family 'Orchidaceae' is known as *sthalpadma* and *sthalkamal* in Hindi; *orilattamara* and *kalttamara* in Malayalam; *padmasharini* in Sanskrit; and *orilattamarai* in Tamil. The officinal part are the tubers which are used in ayurvedic formulations like *Asokarishtam*, *Tungadrumadi tailam*, *Triphaladi tailam*, *Matsyakshadi kashayam*, *Vastyamayantaka ghritam* and *Satavaryadi ghritam*, etc. (S.R. Iyer, 1983). The plant is distributed throughout the plains and in varying altitudes. In Kerala its natural growth is located at Elanadu, Peechi and Iranikulam of Thrissur district, Dhoni of Palakkad district, Nedumpoil and Chandanathode of Waynad district, and Mukkam of Kozhikode district. (Fig.I).

The plant is bitter, acrid, cooling, galactagogue, diuretic and tonic. It is useful in

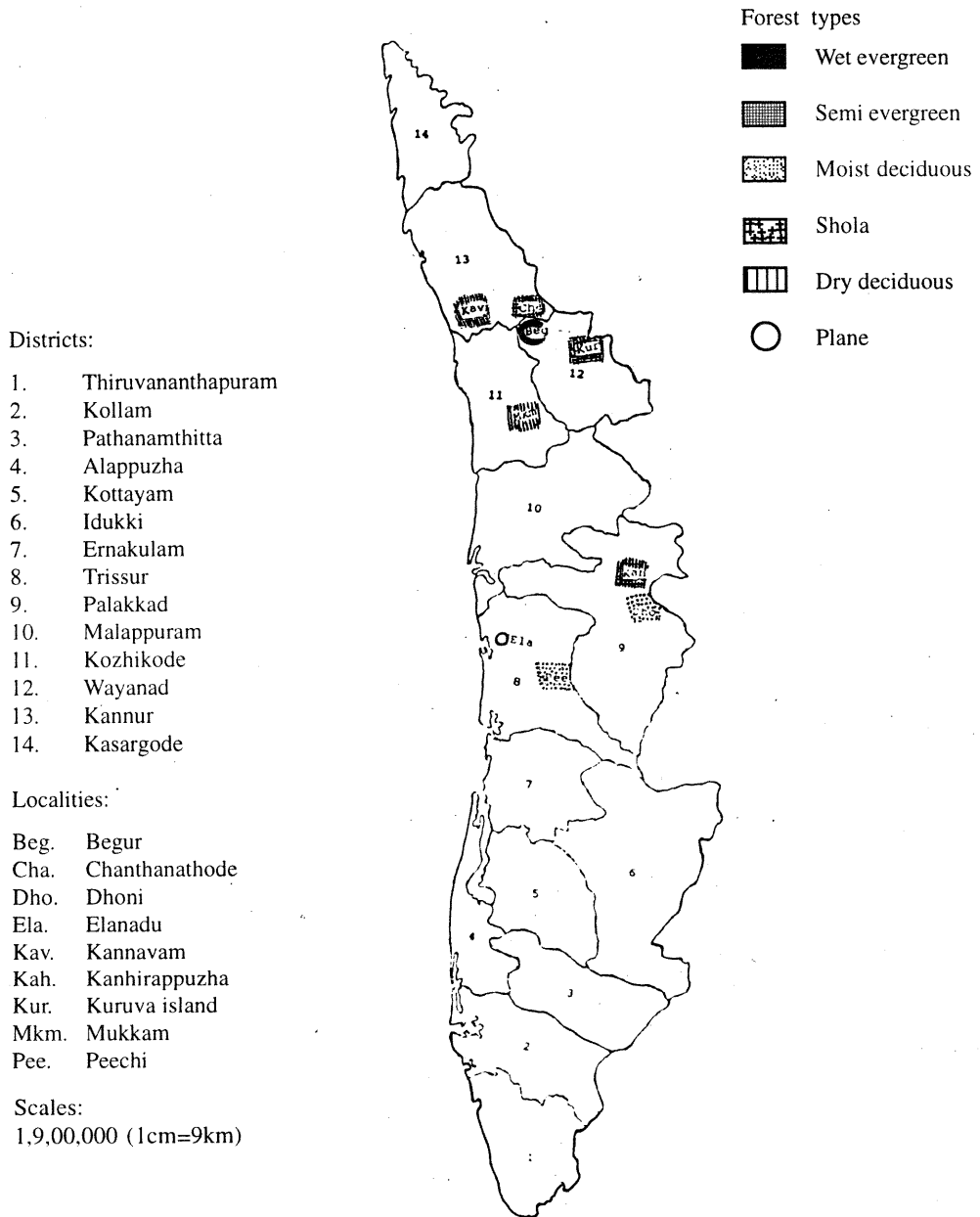
uropathy, lithiasis, colic, agalactia, mental instability, epileptic fits, haemoptysis, diarrhoea, asthma, cough, vomiting and vitiated conditions of pitta (Warrier et al, 1995). In Malaya the decoction of leaves were used as a protective medicine after childbirth (Anonymous, 1966).

Morphological description

A terrestrial single leafed tuberous perennial herb with lotus-like lamina raised on a long stalk and a fleshy white starchy corm with annulations and having roots; leaves simple, orbicular, base cordate, 13 or more ribbed, margin wavy almost coarsely dentate, 8-20 cm. In diameter, petiole 10-18 cm. long; runners arise from base of the petiole; inflorescence racemose emerges up after the leaves disappear, flowers bisexual, epigynous, trimerous, outer three perianth lobes (calyx) equal and pale green, linear lanceolate, acute; inner three (petals) smaller than the outer ones, labellum white, three lobed

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Fig.I. *Nervilia aragoana* Gaud. - Location Map



about the middle, veined, purple tinged with yellow near the base, middle lobe ovate, acute, crisped, inner surface hairy; androecium consists of single fertile stamen which on union with gynoecium forms the gynostegium, pollen in pollenia; ovary inferior, tricarpellary, syncarpous but unilocular with three bifid parietal placentas; column with three stigmatic lobes, of which two are fertile and the third sterile rostellum; fruit a dehiscent capsule, seeds microscopic, powdery (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. Vein-islet number, stomatal index and palisade ratio were found out using samples treated in 5% KOH solution. For determining stomatal index, ten epidermal peeling from both surfaces of a fresh leaf were taken and ten countings were recorded from ten different areas of each piece (ie. Number of stomata as well as epidermal cells per 1 sq. 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 (Salisbury, 1928). The values are represented graphically. Palisade ratio was determined by using 5 fresh leaves. From each of these four pieces (ie. One from base, one from apex, one from margin and one from centre were selected). After clearing, washing and staining they were mounted in

glycerine. From these 100 readings were recorded, taking 5 counts from each piece. Average of these is the palisade ratio. The values are represented graphically. The report that number of palisade cells per unit area increases successively from base to apex with the ratio always remaining constant (Zorning & Weiss, 1925) holds true in this species also. The vein-islet number is calculated by counting the minute areas of photosynthetic tissue encircled by the ultimate division of the conducting strands per 1 sq.mm of cleared leaf samples taken from 5 different leaves. The values are represented graphically. All these numerical values may be considered as a diagnostic constant and will help for identifying the plant species.

Floral vasculature

The sepal is supplied with three vascular strands running from the base to the tip, giving rise to branches alternating to the right and left. The petals also have the same pattern of vasculature. The labellum is supplied with seven vascular bundles. The median one reaches the top without giving rise to any branch. All the other six bundles branch and rebranch on a symmetrical pattern on both sides.

Six vascular bundles supply the ovary. Of these, the dorsal one gets divided into two, traverse through the column and enters into the staminal glands where it gets feebly divided. Another two get divided into two at the region of ovary. One branch of each supplies the stigma and the other branch supplies the ovary wall. The remaining three get divided into two, only at the tip and their supply the placentum (Fig.IVa-d).

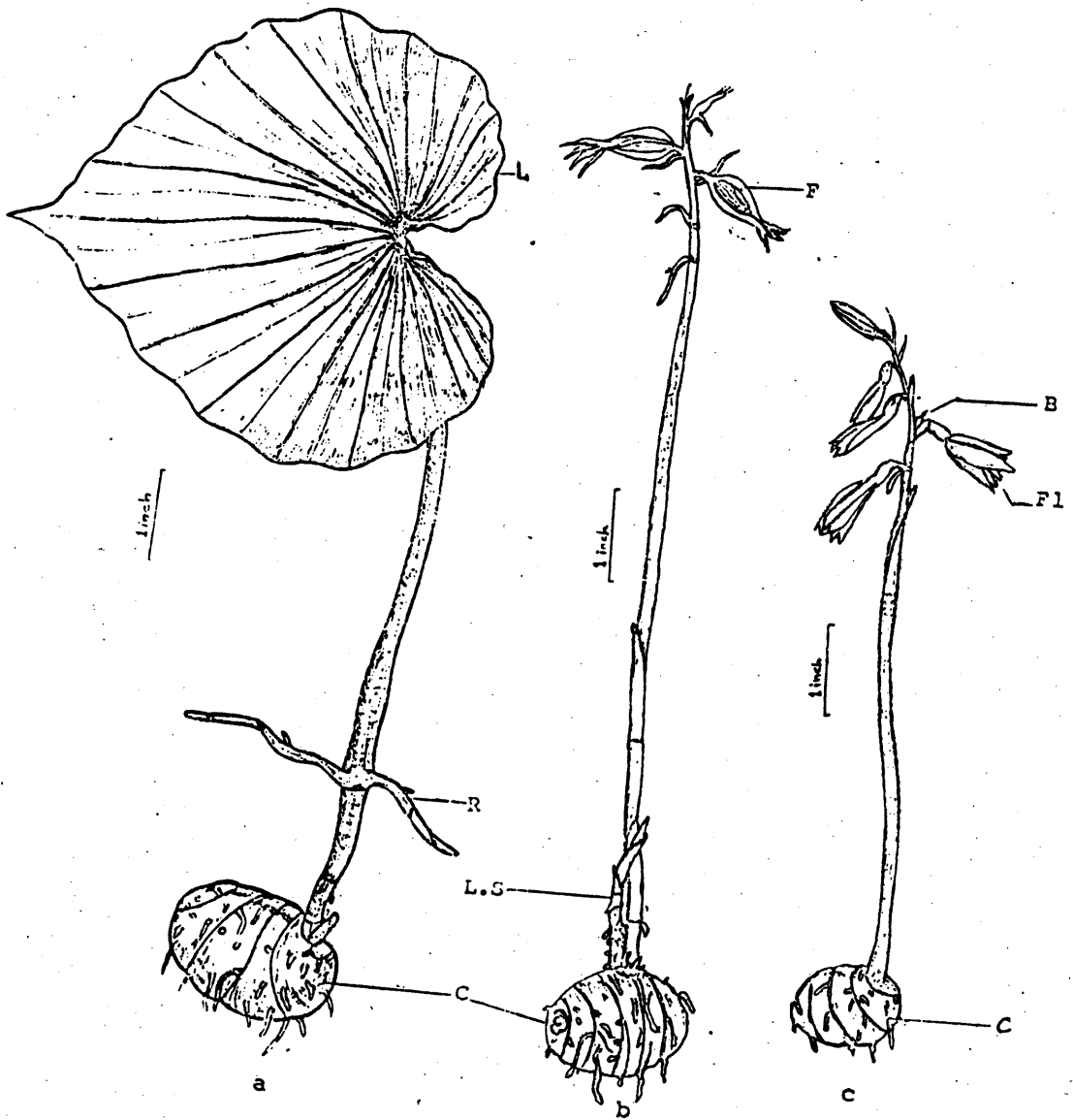


Fig. II. a - c *Nervilia aragoana* Gaud. - Habit a) Leafy plant b) Plant with fruits c) Plant with inflorescence

B. Bract C. Corm F. Fruit Fl. Flower L. Leaf L.S. Leafy shoot R. Runner

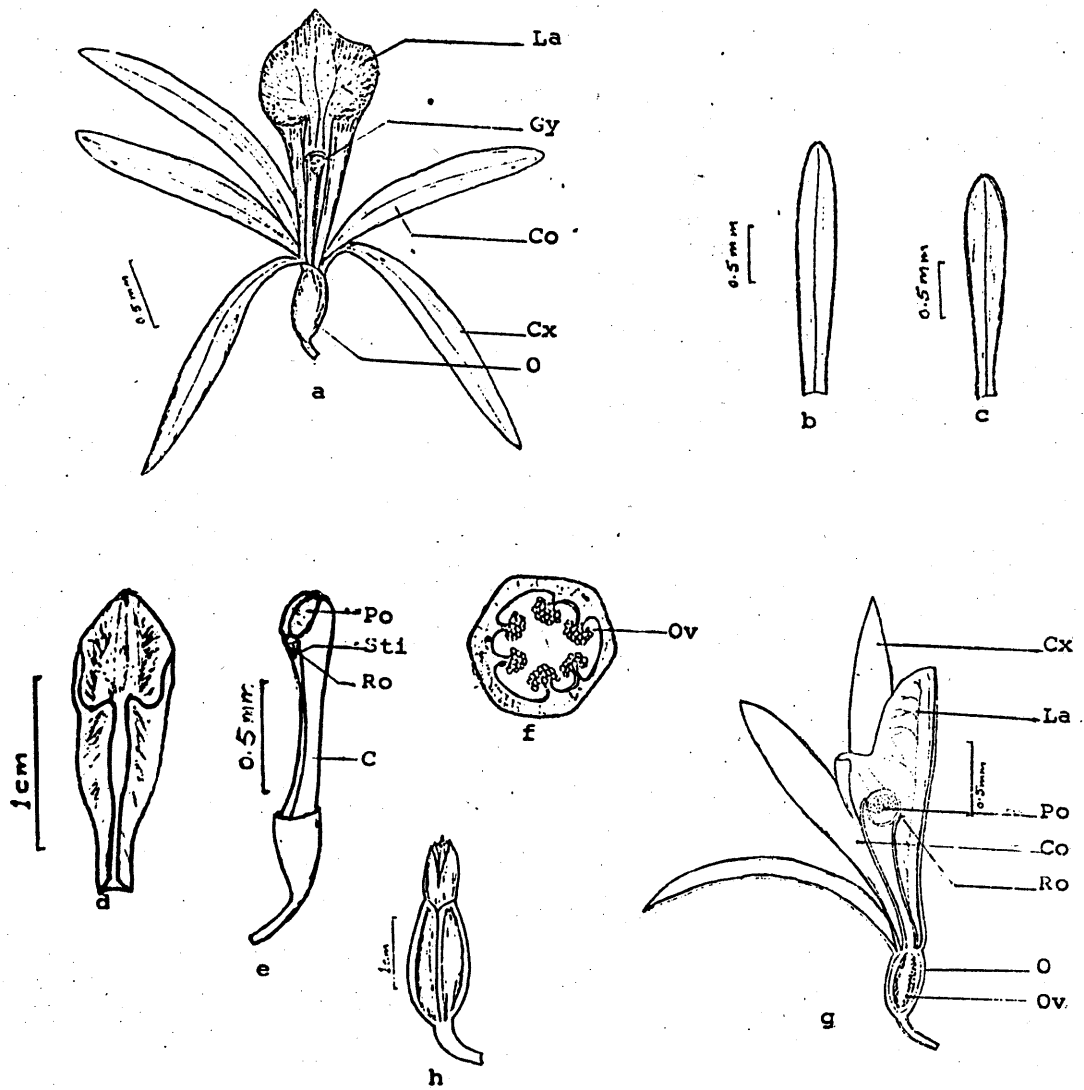


Fig. III. a - h *Nervilia aragoana* Gaud. a) Single flower b) Calyx lobe c) Corolla lobe d) Labellum e) Gynostegium f) Ovary C.S. g) Flower L.S. h) Fruit

C. Column Co. Corolla lobe Cx. Calyx lobe Gy. Gynostegium La. Labellum O. Ovary
Ov. Ovule Po. Pollinium Ro. Rostellum Sti. Stigmatic surface

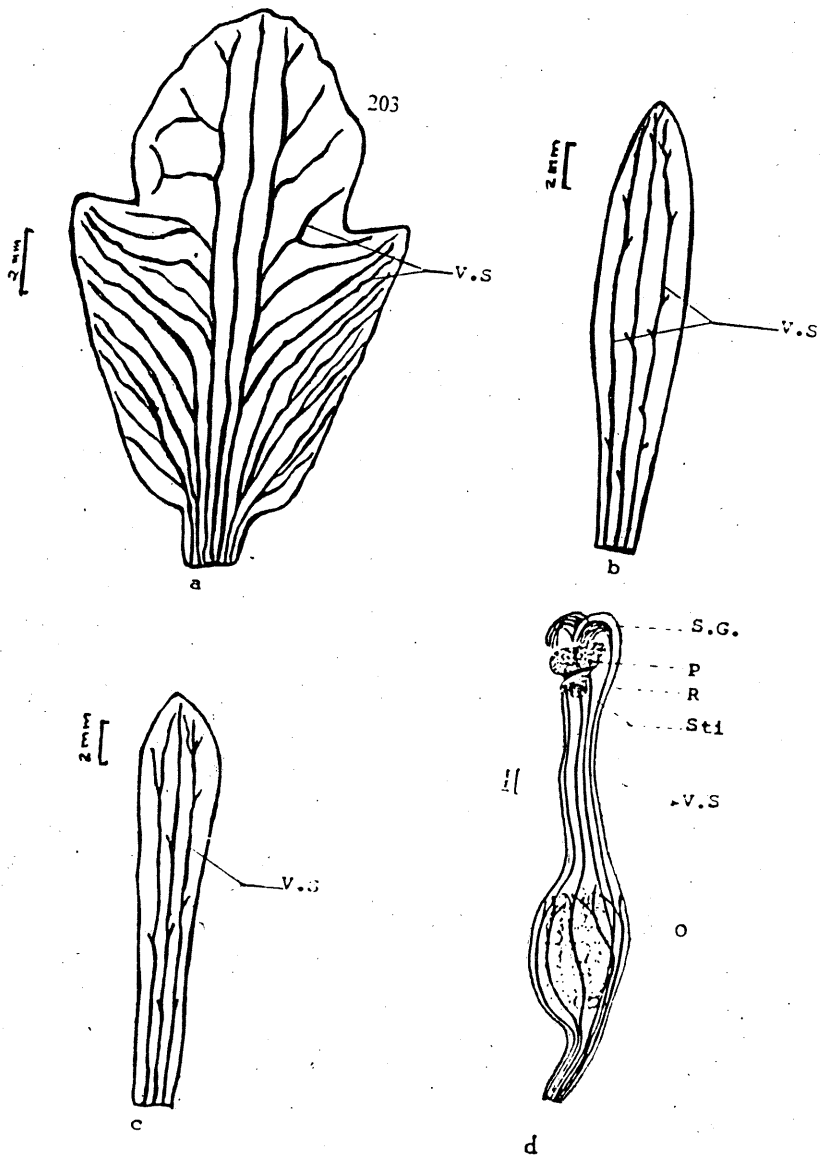


Fig. IV. a - d *Nervilia aragoana* Gaud. Floral vasculature a) Labellum b) Calyx lobe c) Corolla lobe d) Gynoecium

O. Ovary P. Pollinia R. Rostellum S.G. Staminal gland Sti. Stigma Sty. Style
 V.S. Vascular supply

Anatomy

Stem (Corm)

The cross section is nearly circular with wavy outline. The epidermis is uniseriate occasionally provided with unicellular hairy absorptive extension. The ground tissue is parenchymatous and the cells are packed with starch grains. A few cells contain bundles of calcium oxalate crystals. Micorrhizal associations are characteristically evident in some of the cells of the ground tissue. The vascular bundles are scattered and some of them supply the roots. Each bundle consists of only one or two xylem vessels and a small group of phloem cells (Fig. Vc&d).

Runner

Transverse section is circular in outline. Interior to the single layered epidermis is a predominant parenchymatous ground tissue consisting of a peripheral micorrhizal zone and several vascular bundles scattered in the central portion. Each vascular strand is highly reduced as in the case of the rhizome and consists of 2-3 xylem vessels and a group of phloem cells. The parenchymatous cells of the ground tissue contain plenty of starch grains while a few of them possess calcium oxalate crystals (Raphides) (fig. Va&b).

Leaf

Petiole

The cross section is nearly circular in outline with a depression on the adaxial surface. Beneath the single layered epidermis there is 4-5 layered chlorenchymatous zone. Vascular bundles are distributed in a single layer along

the periphery with 3-4 bundles in the central portion. The vascular bundles are provided with schlerenchymatous girdles on both sides (Fig. VI d&e).

Lamina

The epidermis is single layered. Interior to this is a single layer of compactly arranged columnar cells containing plenty of chloroplasts constituting the palisade tissue. The spongy tissue consists of irregularly arranged chloroplast containing cells with plenty of inter cellular spaces. Each bundle is girdled on each side. The stomata are nearer to crucifer type with subsidiary cells varying in number and shape. The stomata are characteristically raised above the epidermal surface (Fig. VI a,b,c,f&g). The stomatal index is 12.06 and the palisade ratio is 1.68 (Table. I&II, Fig. VII&VIII).

Propagation

Propagation is mainly through seeds. Plants multiplied through germination of microscopic seeds are more predominant than those developed through vegetative means. A series of stages in the growth of the seedlings is seen in the (Fig. IX). A solitary short stout root like underground stem arising from the seed gives rise to one or two laterals. By then, a single leaf is seen differentiated above subtended by a scale leaf. Subsequently, the leaf gets unfolded, their margins get undulated and the petiole become more elongated. The main as well as the lateral branches of the underground stem further grow and become differentiated into nodes and internodes. The tip of the main downwardly growing underground stem becomes swollen due to storage of starch. A fully-grown such a tuber is

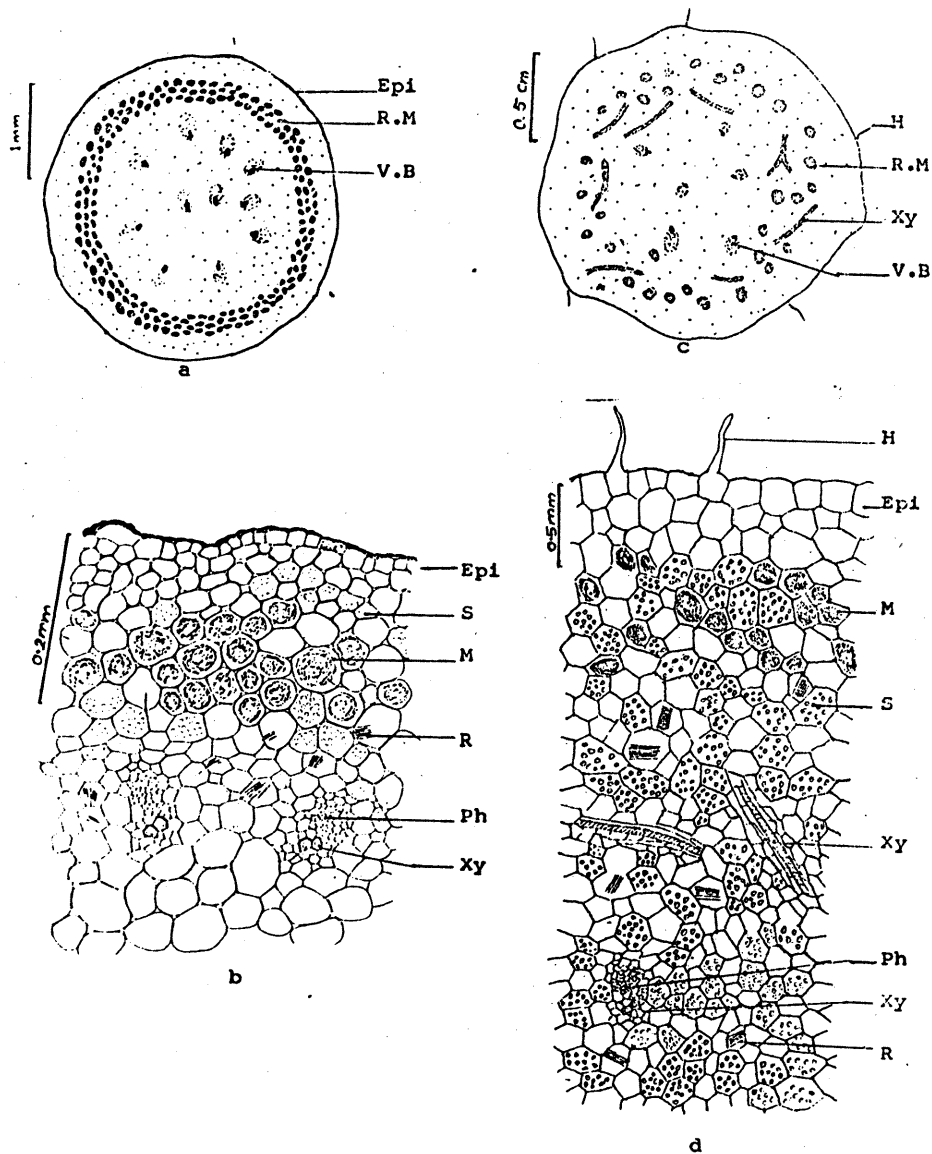


Fig. V. a - d *Nervilia aragoana* Gaud. a) T.S. of Runner - diagrammatic
 b) A portion of runner enlarged c) T.S. of corm - diagrammatic d) A portion of corm enlarged
Epi. Epidermis **H.** Unicellular hair **M.** Micorrhizal association **Ph.** Phloem
R.M. Region of micorrhizal association **R.** Calcium oxalate crystals **S.** Starch grain
V.B. Vascular bundle **Xy.** Xylem

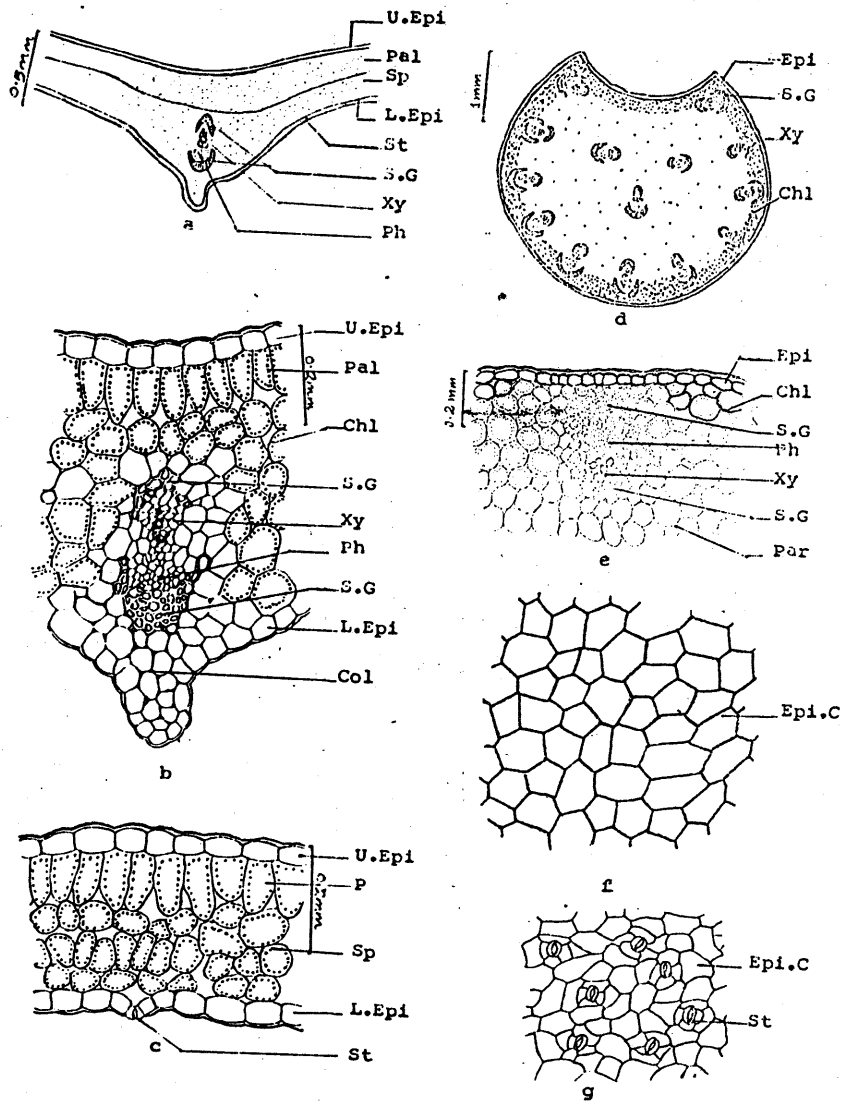


Fig. VI. a - g *Nervilia aragoana* Gaud. a) T.S. of Leaf through midrib - diagrammatic b) Detailed T.S. of midrib c) Detailed T.S. of lamina d) T.S. of petiole - diagrammatic e) A portion of petiole enlarged f) Upper epidermis g) Lower epidermis

Chl. Chlorenchyma **Col.** Collenchyma **Epi.** Epidermis **Epi.C.** Epidermal cell
L.Epi. Lower epidermis **Pal.** Palisade **Par.** Parenchyma **Ph.** Phloem
S.G. Schlerenchymatous girdle **Sp.** Spongy cells **St.** Stomata **U.Epi.** Upper epidermis **Xy.** Xylem

Table I. - *Nervilia aragoana* Gaud. - Stomatal index - Lower Epidermis

	I			II			III			IV			V		
	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	
1	247	24	08.86	260	36	12.16	238	30	11.19	324	44	11.96	336	32	08.69
2	316	30	08.67	272	48	15.00	238	36	13.14	340	56	14.14	360	36	09.09
3	318	40	11.17	220	34	13.39	244	38	13.48	254	44	14.29	312	36	10.34
4	390	40	09.30	240	32	11.76	254	34	11.81	336	44	11.58	380	40	09.52
5	288	44	13.25	236	28	10.61	264	38	12.58	330	50	13.16	348	36	09.38
6	292	48	14.12	240	44	15.49	260	32	10.96	363	25	06.44	336	32	08.69
7	306	27	08.11	248	32	11.43	260	36	12.16	376	44	10.48	324	40	10.99
8	346	25	06.74	266	42	13.64	262	35	11.78	311	49	13.61	336	36	09.68
9	389	32	07.60	246	41	14.29	258	33	11.34	331	46	12.20	346	38	09.89
10	329	35	09.62	230	33	12.55	247	30	10.83	302	50	14.20	382	35	08.39
Average			09.74			13.03			11.93			12.21			09.47

	VI			VII			VIII			IX			X		
	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	No. of Epi. cells	No. of Stomatal Index	
1	364	38	09.45	296	48	13.95	218	40	12.99	261	40	13.29	275	40	12.69
2	337	31	08.42	288	40	12.19	280	42	13.04	269	43	13.78	260	40	13.33
3	350	34	08.85	264	50	15.92	288	50	14.79	261	47	14.33	277	42	13.17
4	336	38	10.16	276	52	15.85	272	43	13.65	251	39	13.45	286	41	12.77
5	327	29	06.15	300	40	11.76	265	46	13.39	279	41	12.81	292	47	13.86
6	360	35	08.86	272	54	16.56	267	49	15.51	275	46	14.33	269	45	14.33
7	366	39	09.63	286	47	14.11	271	49	15.31	281	49	14.85	260	43	14.19
8	343	32	08.53	288	44	13.25	269	43	13.78	263	49	15.71	271	41	13.14
9	384	33	07.91	292	44	13.09	263	42	12.92	296	40	11.90	290	40	12.12
10	348	35	09.14	276	45	14.02	277	50	15.29	273	43	13.61	279	42	13.08
Average			08.91			14.07			14.12			13.81			13.27

Range: 9.47 - 14.12 Mean: 12.06 Standard deviation : 2.17

Fig. VII. *Nervilia aragoana* Gaud. - Stomatal index - Lower Epidermis

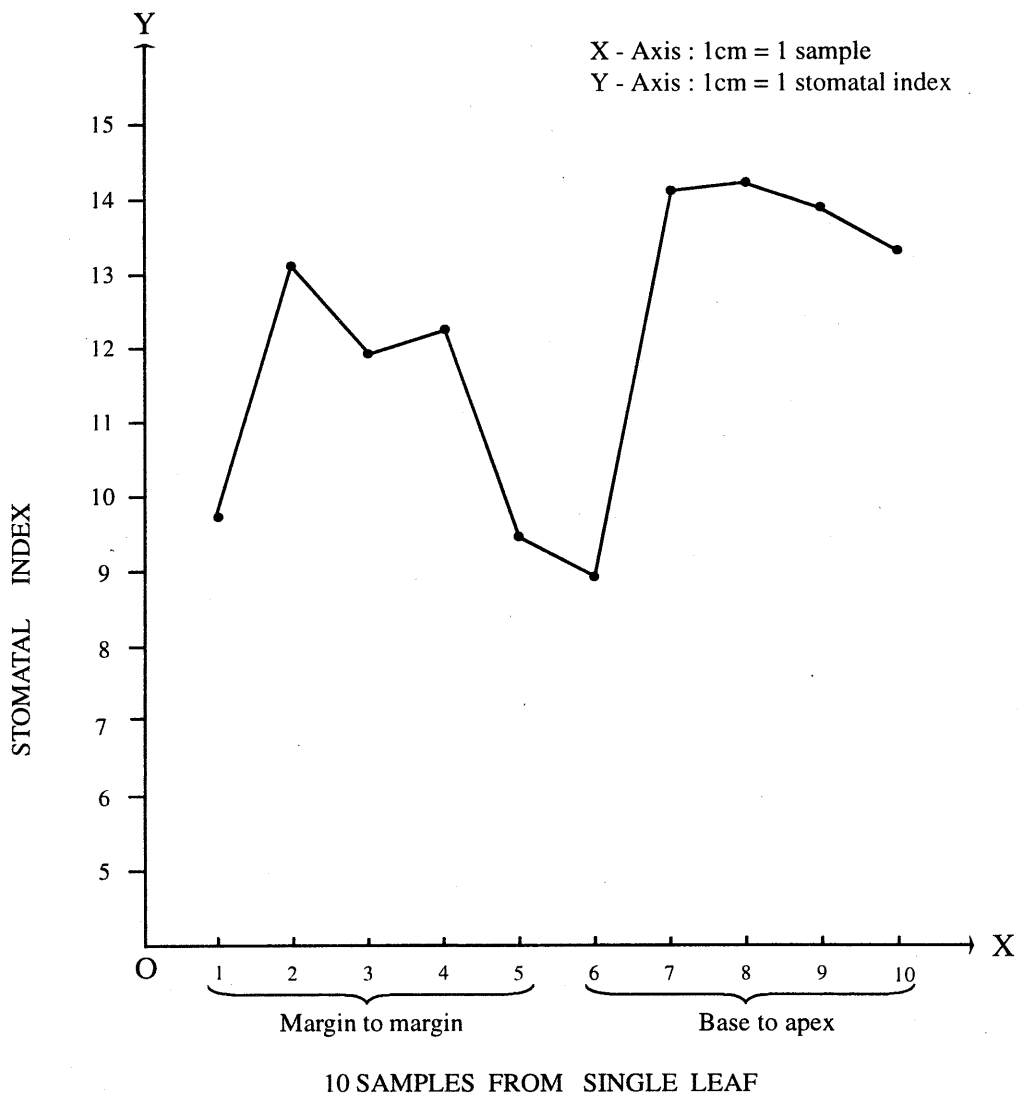
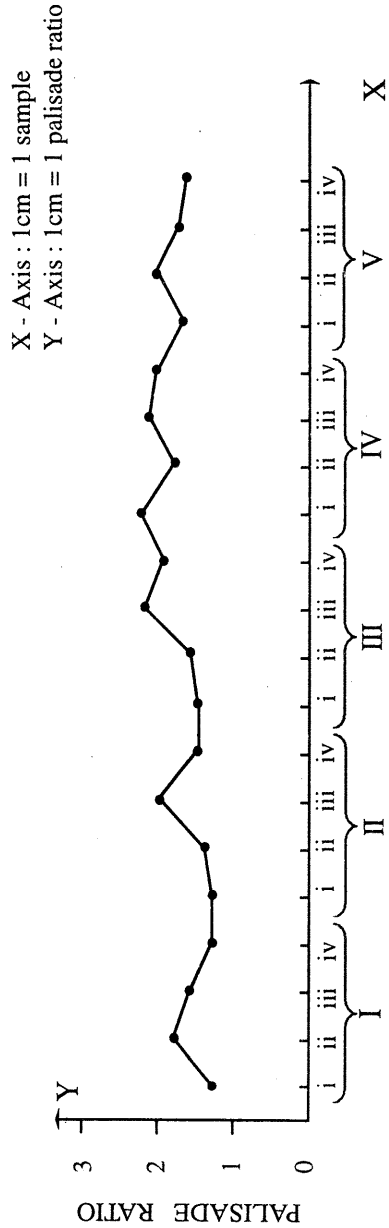


Table II : *Nervilia aragoana* Gaud. - Palisade ratio

Leaf No	I				II				III				IV				V			
	i	ii	iii	iv	i	ii	iii	iv	i	ii	iii	iv	i	ii	iii	iv	i	ii	iii	iv
	1.0	1.5	1.0	1.0	1.5	1.0	2.0	1.5	1.0	2.0	2.0	2.50	1.50	1.50	2.00	2.50	2.75	1.50	1.25	2.00
	1.5	2.0	1.5	1.0	1.0	1.0	2.0	1.5	2.0	2.0	2.5	2.00	1.75	1.75	2.50	1.75	1.75	2.00	1.00	1.50
Readings	1.0	2.0	2.0	1.5	1.0	2.0	2.0	1.0	1.5	1.0	2.0	1.75	2.50	2.00	1.75	1.50	1.00	2.25	2.00	1.50
	1.0	1.5	1.5	1.5	1.0	1.5	1.5	1.5	1.0	1.0	2.0	1.50	2.25	1.50	1.50	2.50	1.50	2.50	2.25	1.50
	1.5	1.5	1.5	1.0	1.5	1.0	2.0	1.5	1.5	1.5	2.0	1.50	2.75	1.75	2.50	1.50	1.00	1.50	1.75	1.25
Average	1.2	1.7	1.5	1.2	1.2	1.3	1.9	1.4	1.4	1.5	2.1	1.85	2.15	1.70	2.05	1.95	1.60	1.95	1.65	1.55
Leaf average	1.4				1.45				1.71				1.96				1.69			

Range : 1.4 - 1.96 Mean : 1.64 Standard deviation 0.47

Fig. VIII. *Nervilia aragoana* Gaud. - Palisade ratio



20 SAMPLES FROM 5 DIFFERENT LEAVES

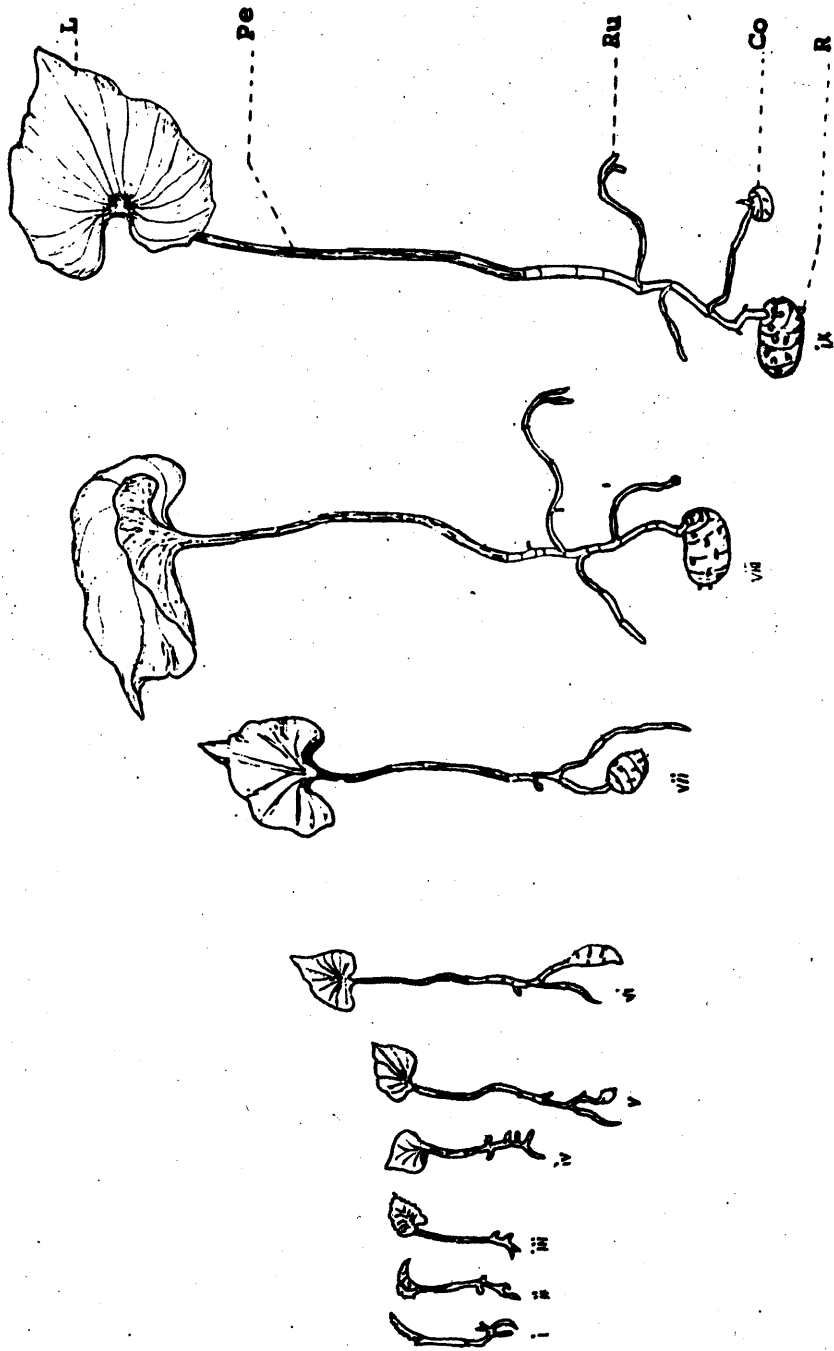


Fig. IX. i - ix *Nervilia aragoana* Gaud. Propagation through seeds

L. Leaf Pe. Petiole Ru. Runner Co. Corm R. Root.

either oval or spherical in outline provided with annulations representing nodes and internodes. Lots of roots arise from such tubers. In addition to this occasionally one or two laterals also develop tubers at their extremities. New buds arise from these tubers which give rise to new young ones.

Result and discussion

Nervilia aragoana known as *padmasharini* in Sanskrit is a restricted species growing in soil where there is plenty of humous. Many substitutes (Various species of *Haberania*) are being used by many establishments. The unique properties possessed by species of *Nervilia* are not reported for the rhizomes of *Habanaria* species. By careful cultural manipulations it is possible to grow *nervilia* species in large number. As this is a shade loving species which get destroyed during forestry operations it is highly essential that ex-situ conservation should be resorted to by cultivation.

Acknowledgements

The authors are extremely grateful to Dr. P.K. Warriar, 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, A.V.S. Kottakkal, Dr. Indira Balachandran, Research Officer, A.V.S. Herbal Garden, Kottakkal and Dr. G.P. Mukundan, Manager, A.V.S. 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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THE POTENT ANTIGLAUCOMA DRUG: *MAHATRIPHALAGRITA*: A PHARMACOLOGICAL PROFILE

Srikant, N.*, Hazra, J.**, Chopra, K.K.*** and Jayaprakash Narayan.****

Abstract: This presentation highlights ayurvedic pharmacodynamic and pharmacological aspects of a clinically established potent antiglaucoma drug, *Mahatriphala ghrta* – a ghee formulation also widely adopted for topical ophthalmic use (*tarpana* - *netra kriyakalpa*) and for internal administration in managing various ocular affections, including disorders of vision and adnexa. The study substantiates previous clinical studies conducted to evaluate the efficacy of this formulation in chronic simple glaucoma. An attempt has also been made to establish hypothetical concepts concerning the probable mode of action of different individual ingredients.

Introduction

A vast number of indigenous compound drugs employed in ocular therapeutics coupled with innumerable claims in managing glaucoma – a comparable clinical entity of *adhimantha* calls for scientific validation for their attributes and principles. The most prominent among the sources is *Mahatriphalaghrta* – a compound ghee formulation (Ayurvedic Formulary of India, Part-I, 1978). A previous study conducted to evaluate the clinical and therapeutic effects of the formulation on topical use (*tarpana*) along with internal administration in diagnosed cases of chronic simple glaucoma showed significant results (Srikanth, N., Hosmath, R.P., 1996). There was significant reduction in intra-ocular

pressure (IOP <21mm Hg, Normal 16-21mm Hg.), marked improvement in visual acuity and no further spread of visual field defects and no adverse effects were noticed (Srikanth, N., 1996., Mukopadhaya, B.N., 1993).

Need for alternative drug therapies

Glaucoma – the comparable clinical condition of *adhimantha*, is a range of disorder that is characterised by optic disc cupping, visual field defects and intraocular pressure raised sufficiently to damage the eyesight (Miller Stephen, 1987). This is the major blinding condition of the present era occupying 1.70% of total blindness, causing gradual deterioration of eyesight (NPCB and WHO, 1989).

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Medical management of the disease is aimed to reduce intra-ocular pressure (IOP) including topical and systemic medications. Unfortunately, the drugs used to reduce IOP such as parasympathomimetic agents (pilocarpine), sympathomimetics agents (adrenaline), beta-blockers (timolal), carbonicanhydrase inhibitors (acetazolamide), result in many adverse effects which interfere in the vision and the eye (Ellispp and Smith, 1969). Sympathomimetic agents such as adrenaline increases the outflow of aqua from the eye but dilates the pupil. Adrenaline also causes local irritation and may produce cardiovascular side effects due to systemic absorption (P.T. Khau and Arelkinlton, 1988). Topical agents – betablockers such as timolol reduce the secretion of aqua but are contra-indicated in respiratory and cardiovascular diseases. Acetazolemid reduces the secretion of aqueous humour but they have many side effects including nausea, lassitude, paresthesia and renal stones (Bacer, B. and Shaffer, 1970). Owing to all the above adverse effects of medicaments employed to reduce the intra-ocular pressure, the need for a drug which could effectively tackle the raised intra-ocular pressure at the biological level without any side effects is warranted.

Drug profile

Ghritas are medicated ghee preparations containing (besides sweetening agent like sugar at times) the fat-soluble components of the ingredients used in these preparations. The principle of preparation is the protracted boiling of ghee with prescribed *kashayas* (decoctions) and *kalkas* (a fine paste of the drug/drugs) to dehydration or near dehydration thereby effecting the transference of the fat soluble principles to the

ghrita from the drug ingredients or *kashayas* or *svarasas* as the case may be according to the formulation (Alam et al, 1978).

Composition Mahatriphalaghrita

(*Bhaishajyaratnavali, Netrarogadhikara* 173-175, Ayurvedic Formulary of India, Part-1, Page 78) 1. *Triphala rasa (kvatha)*, 2. *bharnga rasa (bhringaraja svarasa)*, 3. *vasa rasa (vasa svarasa)*, 4. *satavari rasa*, 5. *ajaksheera*, 6. *guduchi rasa*, 7. *amalaki rasa* (768 ml., drugs 1 to 7 in equal proportion), 8. *kana (pippali)*, 9. *sita (sarkara)*, 10. *draksha*, 11. *haritaki*, 12. *bibheetaka*, 13. *amalaki*, 14. *nilotpala*, 15. *madhuka (yashtimadhu)*, 16. *kshirakakoli*, 17. *madhuparni (guduchi)*, 18. *nidigdika (kantakari)* (96 g., drugs 8 to 18 in equal proportion) and 19. *ghrita* (768 ml). Dosage: 12g. *Anupana*: Warm milk or warm water. Important therapeutic uses: *naktandha* (night blindness) and *timira* (disorders of vision).

Materials and methods

Aims and objectives

- a) To highlight the pharmacological aspects of different ingredients of the drug.
- b) Analyse pharmacodynamic studies of the formulation based on ayurvedic pharmacological principles.
- c) To substantiate the previous clinical studies carried out on antiglaucoma effects of the drugs.
- d) To establish a hypothetical concept regarding mode of action of the drugs.
- e) To standardise the prepared drug based on methods mentioned in pharmacopoeial standards for ayurvedic formulations (CCRAS, 1976).

Method of preparation and standardisation

Mahatriphalaghrita was prepared as per formula mentioned in Ayurvedic Formulary of India, Part-I, page 78, and method adopted by the same text (except *kshirakakoli*). The prepared formula was standardised as per method mentioned in pharmacopoeial standards for ayurvedic formulations (CCRAS, 1976). The observation of standardisation are tabulated (Table 1).

Observations

Ingredient profile

There are 18 ingredients in this formulation (*kshirakakoli* is not included in the preparation) (Table 2, 4). Out of these, *amalaki* (*Phyllanthus emblica*) is mentioned three times, *haritaki* (*Terminalia chebula*) 2 times, *vibhitaka* (*Terminalia bellerica*) 2 times and *guduchi*

Table 3. Distribution of ingredients of plant and animal origin.

Sl. No	Origin	Number	Percentage
1.	Plant	13	86.6
2.	Animal	2	13.3

(*Tinospora cordifolia*) is repeated 2 times (Table 4). Out of these 15 common ingredients, 13 (86.6%) are of plant origin and 2 (13.33) are animal products (Table 2&3). Among 13 plant ingredients, fruit is the useful part in 5 (38.5%) plants, whole plant in 2 (15.3%), roots in 2 (15.33%), stem in 2 (15.3%), leaf in 1 (7.6%) and flower is the useful part in 1 (7.6%) plant (Table 2&5).

Pharmacodynamic profile

Among 31 component *rasas* (of 15 ingredients) 10 (32%) are found with *madhurarasa*,

Table 1. Standardisation of *Mahatriphalaghrita*

Sl.No	Description*	PSAFLimits	Values obtained
1.	Loss on drying at 1100C	Not more than 1%	1%
2.	Refractive index	1.4529 - 1.4545	1.4560
3.	Iodine value	30 - 40	32
4.	Acid value	220 - 232	226

* Pharmacopoeial standards for Ayurvedic Formulations CCRAS, New Delhi.

Table 4: Ingredients repeated in the preparation of drug.

Sl. No	Ingredient	No. of items repeated
1.	<i>Amalaki (Phyllanthus emblica)</i>	3
2.	<i>Haritaki (Terminalia chebula)</i>	2
3.	<i>Vibitaka (Terminalia bellerica)</i>	2
4.	<i>Guduchi(Tinospora cordifolia)</i>	2

Table 2. Pharmacodynamic and pharmacological profile of ingredients of *Mahatriphalaghrita*

Sl. No	Name / Botanical name / English name	Part used	Rasa	Guna	Veerya	Vipaka	Ophthalmic use
1	<i>Amalaki</i> (<i>Phyllanthus emblica</i>)	Fruit	Pancharasa	Guru, rooksha, seeta	Seeta	Madhura	Chakshusya, timirahara
2	<i>Vibithaka</i> (<i>Terminalia bellerica</i>)	Fruit	Pancharasa	Laghu, rooksha	Ushna	Madhura	Chakshusya, netrahitia
3	<i>Bhringaraja</i> (<i>Eclipta alba</i>)	Whole plant	Tikta, katu	Rooksha, Ushna	Ushna	Katu	Chakshusya, netrarujahara
4	<i>Haritaki</i> (<i>Terminalia chebula</i>)	Fruit	Pancharasa	Laghu, rooksha	Ushna	Madhura	Chakshusya, netrarogahara
5	<i>Vasa</i> (<i>Adhatoda vasica</i>)	Leaf	Tikta, kashaya	Rooksha, laghu	Seeta	Katu	-
6	<i>Satavari</i> (<i>Asparagus racemosus</i>)	Root	Madhura	Guru, snigdha	Seeta	Madhura	Netrya, netramayanasani
7	<i>Ikshu</i> (<i>Saccharum officinarum</i>)	Stem	Madhura	Guru	Seeta	Madhura	Chakshusya
8	<i>Guduchi</i> (<i>Tinospora cordifolia</i>)	Stem	Tikta, kashaya	Guru, snigdha	Ushna	Madhura	Chakshusya, timirahara
9	<i>Pippali</i> (<i>Piper longum</i>)	Fruit	Katu	Laghu, snigdha, teekshna	Seeta	Madhura	-
10	<i>Draksha</i> (<i>Vites venifera</i>)	Fruit	Madhura	Snigdha, guru, mridu	Seeta	Madhura	Chakshusya
11	<i>Nilotpala</i> (<i>Nymphaea stellata</i>)	Flower	Madhura	Guru, snigdha	Seeta	Madhura	-
12	<i>Yashitmadhu</i> (<i>Glycyrrhiza glabra</i>)	Root	Madhura	Guru, snigdha	Seeta	Madhura	Chakshusya
13	<i>Kaniakari</i> (<i>Solanum verinianum</i>)	Whole plant	Katu, tikta	Laghu, rooksha, teekshna	Ushna	Katu	Netrya
14	<i>Ksheera</i> (milk)	-	Madhura	Snigdha	Seeta	Madhura	Netrya
15	<i>Ghrta</i> (Ghee)	-	Madhura	Snigdha	Seeta	Madhura	Netrya

Table 5. Distribution of parts used in 13 plant ingredients.

Sl. No	Part used	No. of ingredients	Percentage
1.	Fruit	5	38.5
2.	Whole plant	2	15.3
3.	Stem	2	15.3
4.	Root	2	15.3
5.	Leaf	1	7.6
6.	Flower	1	7.6

Table 6. Distribution of 31 component *rasas* in 15 ingredients.

Sl. No	Rasa	Number	Percentage
1.	<i>Madhura</i>	10	32
2.	<i>Tikta</i>	7	22.5
3.	<i>Kashaya</i>	6	19.3
4.	<i>Katu</i>	5	16.2
5.	<i>Amla</i>	3	9.6
6.	<i>Lavana</i>	0	0

Table 7. Distribution of 30 component *gunas* in 15 ingredients.

Sl. No	Guna	Number	Percentage
1.	<i>Snigdha</i>	8	26.6
2.	<i>Rooksha</i>	6	20.0
3.	<i>Laghu</i>	4	13.3
4.	<i>Teekshna</i>	2	6.6
5.	<i>Mridu</i>	1	3.3

7 (22.5%) *tiktarasa*, 6 (19.3%) *kashayarasa*, 5 (16.2%) *katurasa*, 3 (9.6%) *amlarasa* and no drug has *lavanarasa* (Table 6).

Distribution of 30 component *gunas* (of 15 ingredients) revealed that a maximum number of 8 (26.6%) are *snigdha*, 6 (20%) *rooksha*, 4 (13.3%) *laghu*, 2 (6.6%) *teekshna* and 1 (3.33%) is *mriduguna* (Table 7).

10 (66.6%) out of 15 ingredients possess

seetaveerya and 5 (3.33%) exhibit *ushnaveerya* (Table 8). *Madhuravipaka* was noticed among 12 (80%) ingredients while 3 ingredients possess *katuvipaka* (20%) (Table 9).

Thus it was observed that *madhura* and *tikta rasas*, *snigdha*guna, *seetaveerya* and *madhuravipaka* are predominately distributed among these ingredients. These dominating principles are highly conducive to vision (*chakshushya*) and adnexa of the eye (*netrya*/

Table 8. Distribution of *veerya* in 15 ingredients.

Sl. No	<i>Veerya</i>	Number	Percentage
1.	<i>Seeta</i>	10	66.6
2.	<i>Ushna</i>	5	33.3

netrahit) It is interesting to note that harmful and forbidden factors of vision and eye organ such as *lavanarasa* is not found in any of these ingredients (Table 10).

13 (86.6%) out of 15 ingredients are attributed with direct ophthalmic indications and impart pharmacological action on visual system viz. *chakshushya* (improves the vision) *netrya* (conducive to eye), *netramayahara* (alleviates ocular pathology). No such direct textual reference is noticed for other 2 (13.33%) ingredients (Table 2&11).

Table 9. Distribution of *vipaka* in 15 ingredients.

Sl. No	<i>Vipaka</i>	Number	Percentage
1.	<i>Madhura</i>	12	80
2.	<i>Katu</i>	3	20

Discussion

Clinical trials conducted at different levels (Mukopadhaya, 1993, Srikanth and Hosmath, 1996, Srikanth, 1999) revealed that the classical ghee formulation *mahatriphalaghrita* has a significant role in controlling chronic simple glaucoma. In a clinical trial on chronic simple glaucoma (Srikanth, Management of open angle glaucoma, 1999), *tarpana* (topical administration of *ghrita*) with *mahatriphalaghrita* was scheduled for five days repeated at an interval of every 15 days for 3 months along with

Table 10. Contributory factors at a glance.

Sl.No	Factor	Number	Percentage
1.	<i>Madhurarasa</i> (of 31 component <i>rasas</i>)	10	32
2.	<i>Snigdthaguna</i> (of 30 component <i>gunas</i>)	8	26.6
3.	<i>Seetaveerya</i> (of 15 ingredients)	10	66.6
4.	<i>Madhuravipaka</i> (of 15 ingredients)	12	80

Table 11. Ophthalmic indication of individual ingredients.

Sl. No	Ophthalmic indication	Number of Ingredients	Percentage
1.	Present	13	86.6
2.	Not found	02	13.3

internal use of 5 g of same drug twice daily with hot water before food. There was significant reduction of IOP and marked improvement in visual acuity. All glaucoma treatments are aimed at reducing IOP even though it is generally agreed that there is no proven relationship between IOP reduction and visual field preservation. As level of IOP is determined by both rate of production and rate of outflow of aqueous humour, it can be reduced by decreasing the secretion and increasing the outflow – which may explain the probable mode of action of the preparation. The clinical efficacy of *mahatriphalaghrita* may be justified with its *chakshushya* and *netrya* properties attributed to many of the ingredients.

Justification

Of the primary glaucomas only open angle glaucomas are amenable to chronic medical treatment (Conner Davis, 1994). Whatever its form, an antiglaucoma treatment should satisfy the following criteria. 1) Reduction in IOP and longer duration of effect. The amount by which IOP must be reduced in order that glaucoma can be deemed to have been controlled. IOP's below 21 mm Hg are often taken to indicate control. In the above study IOP was reduced to 16 mm Hg. 2) Preservation of visual fields. In the above study visual fields were preserved. There was no further loss of visual fields. 3) Lack of topical and systemic adverse effects. No topical systemic adverse effects were observed at the end of the study. In the emerging scenario ayurvedic approach represents a true alternative method for a problem that has eluded solution. The empirical treatment of open angle glaucoma with classical drugs offers many

advantages apart from cost effectiveness, these being safe and devoid of adverse effects.

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AYURVEDA, LIFE STYLE AND GLOBAL HEALTH

Anil Kumar and Naresh Kumar.*

Abstract: The authors trace the origin of, the Indian system of medicine from the *vedic* literature which deals with the lifestyle of people. Medicine and health are the essential components of this life style. The philosophy behind ayurveda, the Indian system of medicine expects a person to lead a life according to the natural laws of health and hygiene, practice *yamas* and *niyamas* because disease emanates from the disturbance in the balance of the natural system. Yoga is a preventive measure of maintaining unity of body, mind, soul and consciousness which restores the balance of the natural system without medicines. Surgery is an essential part of the Indian medicine system, but miraculous work has been done by the modern system in this field. Stressing the need of research, investigation and modification in the Indian system the authors call for a comprehensive approach highlighting the importance of assimilation from other advanced systems.

Ayurveda, the Indian system of medicine is unique in itself because it emanates from the sources, which guide its morals and religious beliefs. It is not an independent system as such and is based on the belief that a disturbance in the natural state of the body causes the diseases. Restoring the equilibrium of the natural bodily fluids restores the state of health and makes the body healthy. A healthy body is a prime necessity of doing our duty towards our community, our country and the whole world. Nothing can be achieved if we are not healthy. That is why it has been said that शरीरमाद्यं खलु धर्मसाधनम्. The origin of ayurveda can be traced back to the churning of the ocean, when *Dhanvantri*,

the physician of Gods appeared from the ocean. It is, therefore, but natural that the *vedas*, the oldest books not only of the Indian literature but of the whole world contain references to the science of health and medicine. A prayer was made expressing the desire that everybody may be happy, that everybody may be healthy and disease free and that everybody may see and enjoy goodness and nobody should suffer in any way.

सर्वे भवन्तु सुखिनः सर्वे सन्तु निरामयाः ।
सर्वे भद्राणि पश्यन्तु मा कश्चिद् दुःखभाग्भवेत् ॥

Again the *Vedic Rishis* prayed: O, omnipresent, omnipotent, limitless, without an origin, father of the world, you see everything,

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you are holy and pure and you are the benefactor of your worshippers. May by your grace we be happy, see for 100 years, live for 100 years, hear for 100 years, speak for 100 years, may live independently in a healthy state for 100 years, and may enjoy life, with your grace, beyond 100 years, if possible.

ओइम् तच्चक्षुर्देवहितं पुरस्ताच्छुक्रमुच्चरत् ।
 पश्येम् शरदः शतं, जीवेम् शरदः शतम् ॥
 श्रृणुयाम् शरदः शतं प्रब्रवाम् शरदः
 शतमादीनाः स्याम् ।
 शरदः शतं भूयश्च शरदः शतात् ॥

This means that the ancient Indians considered a disease-free life of 100 years and beyond as a blessing of the Almighty and made conscious efforts to keep it healthy. It is here that the relationship between the religion and the medicine becomes quite obvious. Out of the four *vedas*, the *atharvaveda* contains copious references of the state of disease and the methods to cure it. It also alludes to the various methods of keeping the human body healthy and free from ailments. We come across a detailed account of *soma*, the bitter root with sweet juice in *rigveda*. This is interpreted by the modern scholars to mean ephedra which is the main yielder of *ephedrine*.

It must be understood that medicine in Indian system does not mean a particular object curing a disease. It, on the other hand, stands for a process bringing about a unity of the body, mind, soul and consciousness. It is basically a preventive system rather than a suppressive one and its approach is the strengthening of the natural defence mechanism of the body. That is why it again and again merges with the religious

doctrines and refers to the following of the natural principles of health and hygiene and the qualities like *ahimsa*, truth, non-stealing, celibacy etc. popularly known by the *yamas* and the *niyamas*. It purports to establish a mental equipoise, which is so necessary for the health of the body. That is why it talks of *samadasha*, *samadhatu*, *samagni* and *malakriya*. That is why it imposes strong restrictions in the dietary management and considers *satvika* food as the best diet for the human being. People throughout the world are now recognising the importance of the vegetarian *satvika* diet, which the ayurveda has been stressing as an essential element of the healthy living. The return of the west towards the vegetarian diet on account of the increasing cases of coronary diseases, cancer and the other deadly ailments vindicates the stand of the Indian medicine. Ayurveda, the Indian system of medicine derives its inspiration from the religious texts of the *vedic* as well as the post *vedic* periods. There has also been additions based on the researches and experiences of the modern practitioners of ayurveda. This is the reason that the *vedas*, the *upanishats*, the *mahabharat*, the *bhagvat geeta* and a number of other religious texts of the indians refer to the methods of keeping good health and give a detailed description of the factors responsible for it. *Yoga*, the wonderful system of the Indian religious tradition takes care of all the aspects of healthy living and includes the *asanas*, the *pranayama* or the breath control, meditation and a number of other processes which enable a person to transcend the limits of the physical body and attain a state of perfect tranquility. It is pertinent here to assert once again that the essential pre-requisites of a

follower of the *yogic* system are the *yamas* and *niyamas*. No practitioner of *yoga* can think of attaining the desired results without going through the strict regimen of its basic tenets. But perfection attained by following the dictates of the system bestows extraordinary powers on a *yogi*.

One of the main modern problems is the increasing number of psychosomatic diseases arising out of stress. The Indian system supported by *yoga* offers a unique option, through *asanas* and *pranayamas* to many of them. If need be, only a simple course of herbal medicines takes care of the rest. Currently research work is going on in various *yogic* centres in India and abroad for developing simple courses of therapeutic importance based on *yoga* for stress management and for curing many diseases which otherwise remain incurable for want of suitable medicines or the side effect of medicines. *Yoga* is based on restoring the natural rhythm, harmony and balance of the body enabling it to function in the natural way rather than by stuffing the body with suppressive medicines. The main stress of the *yogic* system is to purify and decongest the breathing apparatus so that the life-giving oxygen can be taken in sufficient quantity, identifying the pressure points in the body and utilise them properly to remove the toxic materials, rejuvenating the nervous system so that the passive nerves start functioning once more removing the chances of paralysis, haemorrhage, etc. and bringing the co-ordination between the various organs of the system to ensure perfect health. It is also supported by appropriate diet and the herbal treatment, if needed. Needless to say that the whole system

works under a life style so aptly enunciated by our religion. Thus we can say that the Indian system of medicine has its root in the religion of the land which details a way of life which is perfect and complete in itself. It does not follow a fragmented approach to dividing the various activities connected with life into different compartments.

It may also be mentioned here that the Chinese techniques of acupressure and acupuncture are the intelligent extensions of the *yoga* technique. In *yoga* technique we identify the pressure areas and exploit them by internal bodily mechanism. Whereas in the acupressure and acupuncture techniques the identified pressure points are exploited by the outside apparatus like needles and other equipment.

Surgery is yet another field which needs mention here. It is generally believed that surgery finds no place in the Indian system of medicine and that it is the monopoly of the modern system. In fact, the Indian system had developed surgery which stood the people in good stead at the times of need. Mention may be made of *mahabharata* which talks of the physicians of both the armies looking after the injured patients in the evening after sunset when the war was stopped and all the warriors rested in their tents. So expert were these physicians cum surgeons that they not only treated the injured soldiers with homemade medicines and cured them in the shortest possible time, but they also performed surgical operations wherever needed. However, their efforts were not to resort to surgery hurriedly in every case. Amputation and dissection were the last resorts. So confident were they of their method of treatment that they

ruled out the use of surgery in most of the cases. We also find the mention of *Salyachikitsa* in many other texts, which shows that surgery found an important place in the Indian system of medicine. This is not meant to be little the importance of surgical successes in the field of modern medical science where surgeons have done wonders. What is desired is to show that the rudiments of surgery did exist in the Indian system of medicine.

But it must be admitted that all our ancient literature which is the source of the Indian system is written in Sanskrit having a structure and idiom of the ancient times. Dictionary meanings of the various terms give confusing explanations. It is the need of the hour to conduct research in the original texts and to supplement them by modern researches. There is no harm if we adopt the practices of modern surgery and then initiate our own researches to enrich the present knowledge with new investigations. It should be remembered that it is not possible to exist in the competitive age of today with old and stereotyped knowledge and that research based on the needs and demands of today are a must. Moreover, we have to write and compose books today in the language of the day. We cannot afford to refer to the old and archaic language again and again. No doubt, the old books of medicine are our perennial sources of knowledge and inspiration, but we have to improve upon them by constant research, study and investigation.

References in *vedas*, *upanishats*, *mahabharata*, *geeta* and other texts should be given due recognition. Sanskrit texts of Indian system of medicine like Charaka, Susruta, Vagbhata, Sharangdharasamhita and a host of others should

be preserved. The contents of the *yogic* system and all other available techniques in the Indian system should be perfected and extended and we should not stop at that. We must assiduously try to give a comprehensive base to the Indian system because no imported system will be able to solve the problems of our people. We must not lose sight of the important dictum of the ayurveda that a person can be treated by the herbs grown in his own land and by the medicines prepared and perfected out of these herbs.

The word religion in the article does not mean a sect but a process and a system of life denoted by the Sanskrit word *dharmā* depicting the dual sense धर्मः इति धर्मः (निरुक्त) i.e. the life process which establishes identity and maintaining it is *dharmā*. यतो हि अभ्युदय निःश्रेयस सिद्धिः सः धर्मः । (न्याय दर्शन) i.e. the process which brings about the material as well as the spiritual progress is *dharmā*.

Acknowledgement

The authors are highly thankful to the Director, Central Council for Research in Ayurveda and Siddha, New Delhi, for encouragement and guidance.

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INTRODUCTION TO HASTYAYURVEDA*

Murali, K.**

Abstract: As ayurveda is the science of life, its scope includes all life forms. With the same *tridosha* theory it interprets the body and bodily conditions of all the living being. So there emerged specialised areas such as *vrikshayurveda*, *asvayurveda*, *gavayurveda* and *hastyayurveda*. The social conditions that necessitated the development of each of these can be traced in history. This paper reviews *hastyayurveda* (ancient Indian elephantology), its history, literature and basic approaches.

Elephant, the biggest animal of the land fascinated man, perhaps more than any other animal. Woolly mammoths have been widely illustrated in Stoneage paintings over 20,000 years ago. They were unable to survive the hunting pressure by man and became extinct 10,000 years ago. The earliest known domestication of elephants dates back to the Indus Valley Civilization 4,000 years ago. Apart from steatite and pottery, ivory was also used to produce seals, in those periods. Certain scholars doubt whether elephants were tamed during Indus Valley Civilization. But skeletons of elephants were also excavated from the Planned city of Mohen'jo daro.

In *rigveda* elephant is mentioned only in two passages. Macdonell assumes that attempts were made to catch elephants by the end of *rigvedic* period. Elephant is frequently mentioned in *atharvaveda* and *yajurveda*.

Old Testament mentions the import of ivory by King Soloman (B.C 1015 -975) the powerful king of Israel, from South India. Interestingly, *Ibha* is the word for elephant in Hebrew language. *Ibha* is listed among animals brought from South India by Soloman. Alaxander's army had to confront elephants in the brigade of Porus, according to Megasthenes (B.C.300).

In South India, the *sangham* era, well reflected in the literary works is important to the history of *hastyayurveda*. One book *Purananuru* mentions a king of *Chera* Kingdom (of which Kerala was a part) *Palyanaichelkezhu Kuttavan* who possessed a big herd of elephants. Employing elephants in battles is also described. Fortifications of enemy were destroyed by elephants. *Pathittu-pathu* illustrates the feats of *Pandya* and *Chola* kings. *Chola* King Nallankilli had a herd of elephants trained to knock down forts of

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enemies. There were verses describing the behaviour of mad elephants when chained to a pillar. Chola King Peruvalathan was an expert in guiding an elephant with toes.

Sangham period is in the beginning of Christian era. The evidences show that in South India, elephants were captured, tamed and employed for different activities centuries before Christian era. Gold coins of Kumara-gupta I (A.D. 5th century) showing a King riding on an elephant is evidence from North India. Jehangir was reputed to have had 12,000 war elephants in his army. These animals were also imported from Sri Lanka during those periods.

Elephants are a menace to the human settlement adjacent to forests. They are a threat to agriculture also. Chanakya in *Arthashastra*, states that elephants should be eliminated from river valleys with human settlements. Efforts to eliminate them might have led to the capture and domestication. Management of this big, wild, anatomically and physiologically unique animal, cannot be done without the systematic knowledge of its behaviour, life style and disease management. This need led to the emergence of a system called *hastyayurveda*.

Ayurveda, concerned with the alleviation of disease and maintenance of health in human beings was existent even earlier. It explains body and its states (health and illness) with the tridosha theory. The *dravya*, used as food and medicine is analysed according to *panchaboota* theory. There are more specialised speculations on pharmacodynamic principles like *rasa*, *guna*, *veerya*, etc. *Svasthanavritta* deals with the ways and life styles promotive of health. An aberration from this, may lead to disease and its

management is the subject matter of *aturavritta*.

Body is the conglomeration of *dosha*, *dhatu* and *mala*. *Doshas* are *vata*, *pitta* and *kapha*. *Dhatus* are seven viz: *rasa*, *rakta*, *mamsa*, *medas*, *asthi*, *majja* and *sukla*. *Sveda*, *pureesha* and *mutra* are *malas*. A mutually complimenting, balanced functioning of these bodily constituents is manifested as health. Any change from it, is disease.

Treatment is administered as medicine, corrected food and modified lifestyle. Vitiated *doshas* are eliminated in certain occasions. This is *sodhanachikitsa*. In minor illnesses, medicines are enough to correct the vitiation. This is *samanachikitsa*. Causative factors of diseases should be avoided - *nidanaparivarjana*.

These principles and practice are not confined to the human beings. Application of ayurveda in the breeding of plants, elephant, horse and cow led to the emergence of *vrikshayurveda*, *hastyayurveda*, *asvayurveda* and *pasuchikitsa*. Many of the original textbooks of these subjects are lost. Their practice has almost become void. But the practice of *hastyayurveda* still persists to some extent, especially in Kerala.

The main source of *hastyayurveda*, is a book of the same name also known by the name of its author, Palakapya. *Hastyayurveda* or *palakapya* written in Sanskrit contains more than twelve thousand verses and a few chapters that are in prose. The subject matter is presented in the form of conversation between King Romapada, the student, and the hermit Palakapya the master, at Champapuri, Capital of Angarajya. Pandit Sivadattasarma identifies this king of Anga, with Angaraja, friend of

Dasaratha as mentioned in Ramayana. But fixing the date of the characters of Ramayana is not easy. Champapuri is identified as Pattarghata, 24 KM. from Bhagathpur in Bihar, by many scholars. The travelogues of Fahian, the Chinese traveller contains many references on Champapuri. He mentions the place as a big town with many *Buddhaviharas* and *stupas*. King of Anga, Romapada arrives at Champapuri, to eliminate the elephants which were a threat to the human settlements. So the incidence took place well before the visit of Fahian (A.D. 401-410) when Champa was a new settlement adjacent to the forest. The student and master might have met in the beginning of Christian era.

The acceptance and recognition of *hastyayurveda* is well evidenced by the availability of manuscripts. Different manuscript libraries in India collected a total of fifty manuscripts. Places of availability are also interesting. Assam, Benaras, Bikaner, Mumbai, Nagpur, Calcutta, Chennai, Mysore, Nepal, Cochin, Thiruvananthapuram and Jammu shows that this text was in use all over India. It was published by Anandasrama, Pune in 1894, critically edited by Sri. Sivadatta Sarma, head of the *Sanskrita Patasala* at Lahore.

Apart from certain anatomical and physiological variations, the diseases and their treatment are the same as in humans. So, ayurvedic physicians also recognised *hastyayurveda* as an authoritative text. Dalhana, commentator of *Susrutasamhita* quotes Palakapya, to substantiate his viewpoints.

As a subject, the existence of *hastyayurveda* even before this first documentation, is

well indicated by the mention in Palakapya, of many previous *acharyas* like Gautama, Kasyapa, Mrigasarma, Rajaputra, Gargya, etc. Differences in opinion in some matters, between the *acharyas* are also mentioned. *Panchatantra* says that *mrigavaidyas* are *salihotrajans*. So, the science of *hastyayurveda* existed even before Palakapya. But he practised it even in wild elephants and documented it, adding his own contributions.

The chapters (160) of *hastyayurveda* are arranged in different *stanas*. The text begins with a prayer to Ganapathi, the remover of obstacles. Ten names of this God are quoted. The circumstances that led to the discourse on the subject are detailed in the first chapter. The first few chapters are introductory, containing the many legends on the origin of elephants, characteristics of good elephant, methods to learn the subject and number of diseases affecting the animal. Causes, symptoms and treatment of *pakala*, *skandaroga*, *anaha*, *murcha*, *siroroga* and *padaroga* are dealt in the first *maharogastana*, with eighteen chapters. The biggest *stana*, *kshudrarogastana* contains details of nearly fifty-five diseases. This includes mental illnesses, diseases from poisons and disorders of teeth. The quality of soil in relation with the health of the elephant is discussed. Basic principles of ayurveda – *tridoshas* and *panchabootas* – different foodstuffs of elephants, climate in relation to health, and instruments to control elephants are the other subjects. *Salyastana* deals with surgery. Treatment of wounds (can be from battlefield, place of work or from the mahout) is dealt with in detail. If neglected the wound may form a *nadivrana* (fistula). Certain vital areas of the

body, where trauma can be fatal are termed as *marma*. Various *marmas* in the body are identified and classified in *Salyasthanana*. Many anatomical aspects of the body like *sira*, *sandhi*, *pesi* and *asthi* are well explained. The last *uttarasthanana* contains details of treatment modalities such as *snehapana*, *vasti* and *nasya*. Importance of grass as a foodstuff is stressed in one chapter. The medicinal properties of salt, water, milk, ghee and garlic are dealt with in different chapters. The contagious diseases that appear in *gajasala* and qualities of water for elephants are some other topics. In the last chapter named *gajasanti*, rituals required for the well being of elephants are elaborated.

Hastyayurveda is mainly for captive elephants. Chance to treat a wild elephant is very rare. The freely roaming elephants are captured and brought to a very different environment. Food is different and often restricted. This animal gives much importance to the quality of food. Activities are restricted and decided by man. Some times enough rest is denied. To sum up, whatever they had been habituated in the forests, is not enjoyed in captivity. This is the root cause of many illnesses¹. So, Palakapya's approach to the animal is of great compassion². In the appointment of personnel for elephant management (*gajadhyaksha*, *gajamatya*, *gajavaidya* etc.) their conduct, and interest in elephants should be considered. Punishing an elephant must be avoided. One should not speak even a harsh word to an elephant because he cannot tolerate any mental agony³.

Gajasastra is another text available on the subject. Author is considered as Palakapya. But the style of language and arrangement are quite

different from *hastyayurveda*. Authorship is attributed to Palakapya probably, as this is a compilation from *hastyayurveda*, done during the days of early Maratta Kings. The language is simple and clear. The subject is arranged in smaller topics. There are 701 *slokas* and 10 *prakaranas*. The text published by Saraswati Mahal Library, Tanjore in 1958 also contains as appendix some select portions from other *hastyayurveda* texts.

Apart from these, there are several unpublished texts on *hastyayurveda*. The Sanskrit Pandit of Tanjore Library states there were texts written by Vyasa, Vaisampayana, Gargya, Gautama, Kasyapa, Mrigasarma and Rajaputra. Most of them are lost, *Gajalakshanachikitsa* of Vyasa, *Gajasastra* of Vaisampayana, *Gajasastra* of *sharabhoji* raja, *Gajavaidyaka* (with Telegu Commentary) and *Gajasastra* (Vaiyasikya) are the texts available at the Tanjore Library. A manuscript named *Gajayurveda* is at the library of Asiatic Society, Calcutta and another with the name *Gajaprasamsa* is at Bir Library of Kathmandu, Nepal. Prof.P.V.Sharma in his book on ayurvedic history mentions two more books – *Gajalakshana* (by Brihaspati) and *Gajadarpana*. But the source and availability are not given. The latter one is referred by Hemadri, famous Commentator of *Ashtanga-hridaya*. An enquiry into these texts will enrich the knowledge of not only *hastyayurveda* but also *manusyayurveda*, since effect of medicines are common.

Kerala is a land of elephants. Our forests were rich in this beautiful animal. But their number decreased considerably due to hunting. After declaring them as endangered species capturing was stopped in Kerala. Aristocratic

families of Kerala had one or more captive elephants as a matter of prestige. This trend is still prevailing to some extent. Temples keep some elephants for their use. Presently in Kerala the total number of captive elephants is approximately six hundred. Now-a-days elephants are brought from Bihar and Arunachal Pradesh. Census, ten years back, revealed a wild elephant population of 3645.

Hastyayurveda was practised in Kerala since ancient times and there are some contributions to the subject also. *Matangalila* a book on the *hastyayurveda* contains 234 *slokas* in 12 *patalas*. More stress is given to the capture, selection and breeding of elephants. Illness and treatment are not dealt in detail Ulloor S. Parameswara Iyer states the author's name as Thirumangalath Nilakanthan Nambisan and his period as in 8th Century, of Kollam era (17-18 cen. A.D).

This book was published by Sri.T.Ganapati Sastrikal, then curator of Manuscript Library, Trivandrum in 1910. Mahakavi Vallathol wrote and published Malayalam translation in verse. *Gajarasatantram*, in Malayalam verse, by Hastivaidya Sankaran Nambiar (1915) is another contribution. It contains his clinical experiences also and is a practical guide to some *hastivaidyas* of the present era.

Practice of *Hastyayurveda* is still alive in Kerala though limited to some *vaidyas*. Avana Parambu Maheswaran Namputhiri

(Vadakkanchery, Trissur district of Kerala) and Vakkayil Rama Kaimal (Thalayolaparampu, Kottayam district of Kerala) are some of the leading practitioners in the field.

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1. अतो वनगजा राजन्नष्टरोगास्तृणोदकैः ।
एतत्सर्वं विपर्यस्तमाहाराचारकर्मसु ॥
ग्राममानीतमात्राणां जायते वनहस्तिनाम् ।
- महारोगस्थानं, chapt.3
2. तस्मात्प्रयत्नतो रक्षेत्स्वपुद्गानिव नित्यशः ।
तेषाममितसत्वानां कर्तव्यमनुपालनम् ॥
- महारोगस्थानं, chapt.5
3. असन्नापक्षमं चैनं वाचं न कटुकां वदेत् ।
- शल्यस्थानं, chapt.8

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STUDY OF ANTIPYRETIC ACTIVITY OF ABANA, A POLYHERBAL FORMULATION

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Abstract: The antipyretic action of Abana, a polyherbal formulation was studied on TAB vaccine induced pyrexia in albino rats. TAB vaccine (0.1 ml/100g body wt. sc.) increased rectal temperature after 6 hrs of administration. Abana in the dose of (100mg/100g body wt.) produced significant lowering of TAB vaccine provoked elevation of temperature in rats. The effect produced was comparable with standard antipyretic drug, paracetamol (50mg/100g orally).

Introduction

Abana is a polyherbal formulation of selected ingredients¹ which provides significant protection against ischemia² and hypertension³. It has been reported to possess anti-thrombotic and antihypercholesterolaemic⁴ effects. The most important plant ingredients are *Terminalia arjuna*, *Withania somnifera*, *Tinospora cordifolia*, *Phyllanthus emblica*, etc. used traditionally in the Indian system of medicine.

Normal rectal temperature was recorded thrice at hourly intervals using a clinical thermometer and the hourly variation was noted at the beginning of the experiment.

Pyrexia was induced in 5 rats by injecting typhoid – paratyphoid A and B vaccine (TAB)⁵. A thermister probe was inserted 3-4 cm deep into the rectum and fastened to the tail by

adhesive tape. After measuring basal rectal temperature animals were given subcutaneous injection of TAB vaccine (0.1 ml/100g body wt.). Rectal temperature was noted after 6 hrs. of vaccine injection.

After 6th hour of vaccine injection control group received saline, group II rats received the standard antipyretic drug (50mg/100g body wt.) orally, and the last group was administered with Abana (100mg/100mg body wt). Rectal temperature was noted immediately after the test and standard drug administration and again at hourly intervals upto 10 hr after TAB vaccine injection. (Table 1)

The results were statistically analysed by the student's 't' test.

Discussion

Regulation of body temperature requires a balance between the production and loss of heat

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Table 1. Effect of Abana in TAB Vaccine induced pyrexia.

Treatment	Initial Temp.	Temp. 6 hr. after pyrogen administration °F	Temperature after administration of drugs °F			
			1	2	3	4
Group I Control	98.4 ± 0.56	100.6 ± 0.38	100.7 ± 0.41	100.9 ± 0.33	100.9 ± 0.35	100.0 ± 0.35
Group II Paracetamol	98.2 ± 0.33	100.6 ± 0.52	99.2 ± 0.51	99.5 ± 0.23	99.0 ± 0.76	99.0 ± 0.70
Group III Abana	98.8 ± 0.43	100.9 ± 0.24	100.7 ± 0.42	100.3 ± 0.38*	99.7 ± 0.28**	99.6 ± 0.23*

Statistically significant from control group, * p < 0.05, ** p < 0.001

and the hypothalamus regulates the set point at which body temperature is maintained⁶. During fever this set point is elevated and paracetamol like drugs promote its return to normal⁷. Abana which has ingredients like *Terminalia arjuna*, *Tinospora cordifolia* and *Foeniculum vulgare* were used to treat fever from ancient times in the Indian system of medicine⁸ and these selective ingredients could have contributed to the antipyretic activity of Abana.

Acknowledgement:

The authors thank the Himalaya Drug Company, Bangalore for supplying the drug as gift.

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RASAVAISESHIKA - XXII

Raghavan Thirumulpad, K.*

Abstract: Evolution of different *rasas* from *panchabhootas* and the complex nature of their composition are explained here in detail.

45. तत्र पृथिव्यपां बाहुल्यान्मधुरं विद्यात् ॥
तत्र मधुरं पृथिव्यपां बाहुल्यात् विद्यात् ।

[Among the *rasas*, *madhura* (sweetness) should be understood with the predominance of *prithivi* and *ap* (*jala*).]

All the *dravyas* in the universe are constituted with the five *bhootas*. *Rasa* and other aspects of the *dravyas* are the result of the *bhoota* combination. A particular combination causes a particular *rasa*. For *madhura*, the combination of *bhootas* is with predominance of *prithvi* and *jala*.

46. अम्लमपामग्रेश्च ॥

अम्लं अपां अग्नेः च बाहुल्यात् विद्यात् ।

(The *amalarasa* should be understood as the result of the predominance of *jala* and *agni*.)

Amla is the result of the predominance of *jala* and *agni* among the *bhootas*.

47. लवणमग्नेरपां च ॥

लवणं अग्नेः अपां च बाहुल्यात् विद्यात् ।

(*Lavanarasa* should be understood as the result of the predominance of *agni* and *jala* among the *bhootas*.)

In *amla* as well as *lavana*, the causative predominance of the *bhootas* is that of *agni* and *jala*. The difference here is that in *amla*, *jala* is more predominant and in *lavana*, *agni* is more predominant. The *acharya* indicates this by first stating *jala* and *agni* respectively.

लवणेऽग्निरधिकः अम्लेत्वापः अधिकाः ।

So *lavana* is more *ushna* than *amla*. अम्लः क्षाळयते मुखम् - *Amlarasa* when tasted, a sense of washing, producing more saliva occurs in the mouth. All other aspects can be assumed by the action of the *dravya*. *Lavana*, salt, dissolves in water and when the water is evaporated by heating, the salt remains. Perhaps that may be the reason why certain *acharyas* indicate that it is not the *jala-agni* predominance, but *bhoomi-jala* predominance that cause *amalarasa*.

48. कटुकमग्नेर्वायोश्च ॥

कटुकं अग्नेः वायोः च बाहुल्यात् जायते ।

(The *rasa katuka* is the result of the predominance of *agni* and *vayu* among *bhootas* in the *dravya*.)

There is predominance of *agni* in *lavana*,

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amla and *katuka*. But *lavana* is the hottest, *ushnatama*, *amla* is hotter, *ushnatara* and *katu* is hot, *Ushna*, the suffix *tama* indicates superlative degree and *tara* comparative. There is *jala* in *madhura*, *amla* and *lavana*. But *madhura* is *snigdhatama*, *amla* is *snigdhatara* and *lavana* is simply *snigdha*.

उष्णानामुष्णत्वात् लवणः परः मध्योऽम्ळः कटुश्चान्ते ।
स्निग्धानां मधुरः परः मध्योऽम्ळः लवणश्चान्ते रसः
स्नेहात्रिरूच्यते ॥

It may be because of *amla* being more *snigdha* that its constitution was considered with *jala* predominance. All these happen in the process of the evolution of the *dravya* in its nature. Nature, *svabhava*, has to be accepted as such. No satisfactory answer can be got for the question why, as far as *svabhava* is concerned. In the structure of the *dravyas*, the *bhootas* assist but do not control one another.

49. तिक्तं खस्य वायोश्च ॥

तिक्तं खस्य वायोः च बाहुल्यात् विद्यात् ।

(*Tiktarasa* should be known as the result of the predominance of *kha* (*akasa*) and *vayu* in the evolution of the *dravya*.)

50. कषायमवनेर्वायोश्च ॥

कषायं अवनेः वायोः च बाहुल्यात् विद्यात् ।

[*Kashayarasa* should be understood as due to the predominance of *avani* (*bhoomi*) and *vayu*.]

In the three *rasas*, *tikta*, *kashaya* and *katu* there is predominance of *vayu*. The *bhoota* *vayu* causes *rookshata* in the *dravya*. रौक्ष्यात् कषायो रूक्षाणामुत्तमो मध्यमः कटुः तिक्तोऽवरः - *Kashaya* is extremely *rooksha*, *katu* is not so *rooksha* and *tikta* is only just *rooksha*, perhaps the least

rooksha of the three. Even though *madhura* and *kashaya* have *bhoomibhoota* in predominance *madhura* is most *guru*, as the *bhoomi* is assisted by *jala*.

51. ते निर्धार्यन्तेऽनुमानात् ॥

ते अनुमानात् निर्धार्यन्ते ।

(These *bhootas* are conjectured through *anumana*, inference.)

The *rasas* are inferred as six because of the predominance of two combination of the *bhoota*. All these are recorded in *sastra* (*aptavakya*). The *aptavakyas* are of three kinds. *Sraddheyartham*, *anumeyartham* and *pratyakshartham* (श्रद्धेयार्थं, अनुमेयार्थं, प्रत्यक्षार्थं).

Sraddheyartham has to be believed like when the texts say that there are celestial damsels in heaven, we have just to believe it as there is no way to verify it by reasoning (*anumana*) or perception (*pratyaksha*). The common man is not very much concerned about it. Without the eyes, we cannot see, so we can infer that the sense of sight is *chakshurindriya* which is in the eye. Here by *anumana*, inference, we can verify the *aptavakya* that the *chakshurindriya* is *roopagrahaka* that which grasps the *roopa*, the appearance. The statements in the texts that sugar is sweet, dear to the ants and such insects (प्रियः पिपीलिकादीनां) can be verified by the senses sight etc. Here, the statements regarding the *bhoota* and *rasa* relation which can be assessed by *anumana*, is *anumeyartha*.

52. वर्धनात् सजातीयस्य ।

असमानजातीयस्य क्षपणात् ॥

सजातीयस्य वर्धनात् असमानजातीयस्य क्षपणात्
ते अनुमानात् निर्धार्यन्ते ।

(By the increase of the similar kind, by the decrease of the dissimilar they are understood by inference.)

Kapha is *apya* caused by *jalabhoota* in predominance. *Dravya* which is *madhura* increases *kapha*. So it can be inferred that *madhura* is also of the *jalabhoota*. *Pitta* is *agneya* caused by *agnibhoota* in predominance, so it decreases with *madhurarasa* as it is dissimilar, caused by *jalabhoota*. In the increase of *kapha*, the *gunas snigdha* etc. which are of the *jalabhoota* are seen increased. So *kapha* can be inferred as of *jalabhoota*. When *pitta* is increased, *tapa* (heat) *daha* (burning sensation) etc. which are of *agnibhoota* are experienced. So it can be inferred that *pitta* is of *agni*.

वृद्धिस्समानैस्सर्वेषां विपरीतैर्विपर्ययः ।

The general rule is, that which is similar increases, that which is dissimilar decreases. So *madhura* which is similar increases *kapha*, *madhura* which is dissimilar, decreases *pitta*. *Amla* and *lavana* which have *agni* also in constitution are said to increase *kapha*. How can it be so? They are constituted with *jala* also, so they increase *kapha*. The *agneyata* of the two *rasas* assists the increase of *pitta*. The question can be asked why with their *apyata* the two *rasas* do not decrease *pitta*. The answer is that when one aspect of the *dravya* acts in a way, another aspect of it does not act contrary to it. Here, in *amla* and *lavana*, *jalamasa*, the *jala* content promoting *kapha*, provides *snigdhatva* and the *agneyamsa* promotes digestion. Another question is why the *agneyamsa* in *amla* and *lavana* does not decrease *kapha* and does not increase *pitta*. The answer is that it is not the

nature (*svabhava*) of the things. Everywhere, everything happens according to its *svabhava*. *Sastra* only tries to find out the how and why of such actions, the principles behind the experiences. But in many conditions, it is not actually possible to infer the cause so we have to accept the recorded experience as explained in the texts (*aptavakya*)

53. रसानामाप्यपार्थिवत्वात् शेषभूतहेतुत्वमयुक्तम् ॥
रसानामाप्यपार्थिवत्वात् शेषभूतहेतुत्वं अयुक्तम् ।

(As the *rasas* are caused by *jalabhoota* and *prithvibhoota*, the idea that other *bhootas* also combine to cause *rasa* is irrational.)

Of the *bhootas*, *akasa* has *sabda* as *guna*, *vayu* which evolves out of *akasa* has *sabda* and *sparsa*, *agni* which evolves from *vayu* has *roopa*, *sparsa* and *sabda*. *Jala* which evolves from *agni* has *rasa*, *roopa*, *sparsa* and *sabda* and *prithvi*, which evolves from *jala* has *gandha*, *rasa*, *roopa*, *sparsa*, and *sabda*. All this is inference as the primary *bhootas* are not perceptible by *indriyas*.

अक्षरात् खं ततो वायुर्वायोरग्निस्ततो जलं अंभसः
पृथिवी जाता भूतानामेष संभवः।

Akasa has only one *guna* namely *sabda*. The other *bhootas* have one *guna* in addition ending with *prithvi* which has all five *gunas*. Here we can see that among the *bhootas* *jala* and *prithvi* have *rasa* as a *guna*. So the argument is that the other three *bhootas* need not be associated with the manifestation of the various *rasas*.

54. प्रत्ययाददोषः ॥
प्रत्ययात् अदोषः ।

(As the other three *doshas*, *akasa*, *vayu* and

agni are only *pratyayas*, assistants, there is nothing wrong in it.)

55. तत्र हेतु निवर्त्तकः उपकारः प्रत्ययः ॥
तत्र निवर्त्तकः हेतु उपकारः प्रत्ययः ।

(In evolving *rasas*, that which actually does the thing is *hetu*, that which assists is *pratyaya*.)

The cause is two fold, *hetu* (primary) and *pratyaya* (supporting). The effect is the result of *hetu*, primary cause. For the cloth, the thread is the *hetu* and the instruments are the *pratyaya*. The cloth will be always like the thread, not like instruments. As to *rasa*, *jala* and *bhoomi bhootas* form the *hetu*, the other *bhootas* are *pratyayas* only. It can also be said that *jala* and *bhoomi bhootas* are the originators, the other *bhootas* only make variations in the *rasa*, variations like *amla*, *lavana*, *katuka* etc. When the other *bhootas* do not interfere, *bhoomi*, *jala*, being predominantly active produce *madhura rasa*. When we say *madhura* is *seeta* and *katuka* is *ushna*, it actually means that the *dravya* which has *madhura* as *rasa*, has *seeta* as *guna*. The *dravya* which has *katuka* as *rasa*, has *ushna* as *guna*. Actually *rasa* is also *guna*. A *guna* cannot possess another *guna*. *Rasa* and *guna* can only co-exist in a *dravya*. It is only *sahacharya*. *Madhura* decreases *vata* which is *laghu*. *Rooksha* etc. are remedied with the opposite *gunas* like *guru*, *snigdha* etc. A *madhura dravya*, which has *laghu*, *rooksha* etc. co-existing with it then that *dravya* may not decrease *vata*. So a *dravya* should not be judged for their action with its *rasa* alone. Every aspect has to be taken into consideration before actual experience. तस्माद्रसोपदेशेन न सर्वं द्रव्यमादिशेत् ।

56. द्रव्यारम्भकाणि भूतानि रसारम्भकं द्रव्यं ॥
द्रव्यारम्भकाणि भूतानि रसारम्भकं द्रव्यं ।

(*Bhootas* are the originators of *dravya* while the originator of the *rasa* is the *dravya*)

The five *bhootas* are the material cause of the *dravya* - समवायि कारणं ।

Dravya is explained thus - क्रियागुणवत् समवायि कारणं द्रव्यं । *Dravya* is that which has *karma* and *guna*, in *samavayasambandha*. It is *samavayikarana* for the *guna* and *karma* it possesses. So *dravya* is the *samavayikarana* for its *rasa* as *rasa* is a *guna*. First the *dravya* is formed, it remains without any *guna* for a moment (*kshana*) and the *guna* etc. are generated one by one with the particular *paka* विजातीयतेजस्संयोगः । Here the idea is objected.

57. नयन्मयं द्रव्यं अतन्मयत्वाद्द्रसस्य ॥

द्रव्यं यन्मयं रसस्य अतन्मयत्वात् न भवति ।

(With what the *dravya* is constituted, as *rasa* is not constituted with that.)

द्रव्यं रसस्य समवायि कारणं न भवति - *dravya* can not be the *samavayikarana* of *rasa*. With what *bhoota* the *dravya* is constituted, *rasa* does not manifest with that *bhoota*. *Dravya* is *parthiva*, of the *prithvi bhoota* क्षमामधिष्ठाय जायते ।

The other *bhootas* associate with *prithvi* inseparably giving the *dravya* its various properties. The variation in the *dravyas* with difference in properties is due to the varying proportions and arrangements of *bhootas* constituting the *dravya*. *Pippali* as a *dravya* is *parthiva*, but its *rasa* is effected by the *dravya* as such. The objection is rejected.

58. पृथिव्यपां रसस्येतैस्त्रिभिरन्यथात्वगमनात् रसभेदः ॥
पृथिव्यपां रसस्य इतरैः तृभिः अन्यथात्वगमनात् रसभेदः ।

(When the *rasa* which is originated with the *bhootas* *prithvi* and *jala* is changed to some other taste by the interaction of the other three *bhootas*, difference in *rasa* manifests.)

As the five *bhootas* co-exist in constituting the *dravya*, each performing its own function, the *dravya* has to be *panchabhautika*. *Rasa* is manifested in all *dravyas* with *prithvi* and *jala* *bhootas* (*hetu*). If the other *bhootas* do not interfere the *rasa* is *madhura*. If the other *bhootas* interfere in any way (*pratyaya* or *sahayaka*), the *rasa* is changed accordingly, as *amla*, *lavana*, *tikta*, *katu* or *kashaya*. In *pippali*, the *pratyaya* *bhootas* are *agni* and *anila*. When *agni* and *anila* assist in the process of the manifestation of the *rasa*, the *rasa* becomes *katu*.

59. तत्र विदाहविपाकपरिणामाः निदर्शनम् ॥
तत्र विदाहविपाकपरिणामाः निदर्शनम् ।

(In this change, *vidaha*, *vipaka* and *parinama* are examples.)

Vidaha is primary digestion in the stomach. Milk which is *madhura*, in digestion becomes *amla*. Any food with any *rasa* changes its *rasa* in the courses of its digestion, when combined with the digestive secretions, *pitta* *drava*.

आदौ षड्रसमप्यन्नं मधुरीभूतमीरयेत् ।
फेनीभूतं कफं यातं विदाहादम्लतां ततः ॥
पित्तमामाशयात् कुर्यात् च्यवमानं च्युतं पुनः ।
अग्निना शोषितं पक्वं पिण्डितं कटुमारुतात् ॥

Vipaka is another example. Here *vipaka* means the changes that occur in the external *dravyas* with the external fire. *Thinthrineephala* which is *amla* when boiled in water becomes

madhura. This is a case of *vipaka*. *Parinama* is another example. Milk which is *madhura* becomes curd which is *amla* in time. Here it is the *agnibhoota* in the *dravya* which acts. Such changes do not occur if freezed, as the heat of *agni* is obstructed by the application of cold. Here in *parinama* the other *bhootas* (*vayu* and *akasa*) assist the *agni* in the *dravya*.

60. अन्यथात्वग मनमनुपूर्वेणेत्येके ॥
एके अचार्याः अन्यथात्वगमनं अनुपूर्वेण इति ब्रुवते।

(Some *acharyas* say that such change of *rasa* to some other *rasa* is in its order.)

Madhura, *amla*, *lavana*, *tikta*, *katu* and *kashaya* are the order of the *rasas*. If the *rasa* changes in *parinama*, *madhura* changes as *amla*, *amla* as *lavana*, *lavana* as *tikta*, *tikta* as *katu* and *katu* as *kashaya*, according to some *acharyas*.

61. नायमेकान्तः पक्षः ॥
अयं पक्षः एकान्तः न भवति ।

(This opinion is not always true. Milk which is *madhura* becomes *amla* in *parinama* as curd.)

Kadaleephala which is *kashaya* becomes *madhura* when ripe, by *parinama*. *Amraphala* which is *amla* becomes *madhura* when ripe.

62. परद्रव्यस्य परगुणाप्राप्तेरप्राप्य
चान्यथात्वगमनानुपपत्तेर्न युक्तम् ॥
परद्रव्यस्य परगुणाप्राप्तेः अप्राप्य च अन्यथात्व-
गमनानुपपत्तेः अन्यथात्वगमनं न युक्तम् ।

(Here an objection is raised. As a certain *dravya* cannot adopt the *guna* of some other *dravya* without adopting the *guna* of some other *dravya*, *rasa* of a *dravya* cannot change. Hence one

rasa becoming another is not reasonable.)

Guna exists in a *dravya*. Anything that exists in a *dravya* eternally is *guna*. *Sabda*, *sparsa*, *roopa*, *rasa* and *gandha* are technically *gunas* in this sense. There is no separate existence for *guna* from the *dravya*. The *guna* exists in *dravya* with *smavayasambandha*, eternal existence. If *madhura* has to become *amla*, *madhura* should leave the *dravya* and *amla* from some other *dravya* should take its place. With eternal existence such a thing cannot take place. It means that the *dravya* cannot forsake one *guna* and accept some other *guna*. Then how can change of *rasa* take place?

Actually, it is not the *rasa* or *guna* that changes, but the *dravya* in its entirety changes. All *dravyas* are constituted by the *paramanus*, the *bhoota* particles. First one *dravya* (milk, etc.) disintegrates to the *paramanu* level and another *dravya* is constituted rearranging the *paramanus*, with its particular *rasa*, (*amla*) etc. and that is curd. This method of disintegration and integration is called *peelupaka* – *peelu* means *paramanu*. In this reconstitution of the *dravyas*, *paramanus* are rearranged and with the various different *tejassamyogas*, particular *rasa*, etc. are produced.

63. एतेन सर्वरसगुणकर्माणि प्रत्युक्तानि ॥

एतेन सर्वरसगुणकर्माणि प्रत्युक्तानि ।

(With this all *gunas* and *karmas* ascribed to *rasa* are refuted.)

In the texts, the various *gunas* and *karmas* are ascribed to the *rasas*. Actually, the actions and qualities are not of the *rasas* but of the *dravyas* which possesses the *rasas* and *gunas*.

Such descriptions are informal, *aupacharika* (औपचारिक). *Aupacharika* method is adopted in texts for the sake of convenience and condensation. When it is said that *madhura* is *guru* and *brimhana*, it means that the *dravya* which is *madhura* as *rasa*, is *guru* and *brimhana*.

64. एवं गुणकर्म च ज्ञेयम् ॥

एवं गुणकर्म च ज्ञेयम् ।

(In this way *karma* attributed to *guna* also, has to be understood.)

The *karma* attributed to the *guna* also belongs to the *dravya* possessing the *guna*. Attribution of *karma* to the *guna* also is *aupacharika*, informal.

रसेषूपदिश्यन्ते साहचर्योपचारतः ।

Like the *guna*, also *rasa* and *karma* co-exist in the *dravya*, so some times, for convenience, *karma* of the *dravya* is attributed to the *guna*, as sometimes to the *rasa*.

65. द्रव्यकर्माणि च रसगुणप्रशमनवर्धनं प्रति यानि ॥

एवं रसगुणप्रशमनवर्धनं प्रति यानि द्रव्यकर्माणि उक्तानि तानि च ज्ञेयानि ।

(In this way, for the *prasamana* and *vardhana* of the *rasa* and *guna* what actions of the *dravya* are mentioned, they should also be understood.)

Prasamana is decrease and *vardhana* is increase. Some times with some process the *rasa* and *guna* of the *dravya*, can be increased or decreased. Actually, when the *rasa* or *guna* are reduced or increased, there is a change of *dravyas* and the changed *rasa* or *guna* belongs to the new *dravya*. When sesame (*tila*) soaked in milk and dried many times (*bhavana*), is

crushed in a sesame crusher, the oil becomes sweet. The oil got from sesame soaked and dried in *brahmi* juice becomes *tikta*. In both the cases, the *dravya* is changed, hence the change in *rasa*. Water is normally cold, but when kept in a freezer, it becomes very cold, then also the *dravya* is changed, as when it is boiled, and it becomes hot, actually there is a change in the *dravya*. But, for convenience of expression, we say that the *rasa* is changed, and *guna* is changed.

66. संयुक्तसमवायस्तत्र हेतुः ॥

तत्र संयुक्तसमवायः हेतुः ।

(In the case of change of *rasa* and *guna* and in the case of *vridhhi* and *kshaya* of the *doshas* also, the reason is *samyuktasamavaya*.)

In treatment, when some *katuka dravya* is administrated in the increase of *kapha*, the *rasa katuka* and the *gunas ushna, teekshna, rooksha* etc. of the *dravya*, intermingles with the *rasa madhura* and *gunas guru, sneha, seeta* etc. to extinguish each other and the *doshasamyak* is established. This is how the *dravya* acts as *prasamana*. In *vardhana*, the very same *gunas* increase because of similarity.

सामान्यं वृद्धिकारणं हासहेतु विशेषस्तु ।

In the other case of *prasamana* with *hrasa*, *samyoga* is accepted as a *guna* which results in benefit.

The *gunas* that exist in the *dravyas* with eternal relationship (*samavayasambandha*) react against the opposite *gunas*, reducing them, and getting themselves also reduced.

67. द्रव्यस्वभावः पुनरनन्तरसगुणवीर्यविपाकावस्थत्वात्
द्रव्याणामचिन्त्यः ॥

पुनः द्रव्यस्वभावः द्रव्याणां अनन्तरसगुणवीर्य-
विपाकावस्थत्वात् अचिन्त्यः ।

(So also, the inherent nature of the *dravya*, because of the endless conditions of *rasa, guna, veerya*, and *vipaka* cannot be determined by reasoning.)

The nature of the *dravya* means its particular action and reaction. There are innumerable conditions pertaining to the *rasa, guna, veerya*, and *vipaka*. There can be changes due to *samyoga* (association), *samskara* (cooking), *parinama* (ripening) etc. All these cannot be argued and explained. We can understand the natural effects of the *dravya* by actually using it according to the description in the scriptures. The *aptas (siddhapurushas)* with their extraordinary capacities of perception and reasoning, understood the particulars of the *dravyas* and satisfying themselves with actual experience, recorded them for the benefit of the ordinary people. These records are the scriptures (*agama*). If properly applied in given conditions, the same effects can be obtained. We can try to verify what is given in the scriptures with our perception and reasoning and also by actual application. It is a kind of research with which we can make sure of the validity of the statements in the scriptures and experience their benefits.

68. तस्मात् विशेषेण आगम एव प्रमाणं चिकित्सायाम् ॥

तस्मात् चिकित्सायां आगमः एव विशेषेण प्रमाणं ।

(Hence, in treatment, scriptural knowledge is the primary source of information.)

The scriptures contain the verified knowledge. Experience up to the time and newer

knowledge acquired and verified by practice can be added to it. But to begin with, the texts have to be relied upon. So it is said that in treatment scriptures are the primarily valid source of information (*pramana*). Many *dravyas* act in their particular way. The question as to how and why it is so cannot be possibly answered rationally. So we have to rely on the time tested authority of the scriptures. This does not mean that the rational behind all these should not be

enquired of. It means that in spite of our not knowing the rational, we should not hesitate to make use of and put into practice the time tested statements of the *acharyas* seen in the scriptures. The greatest authority is experience, *anubhava*. So ayurveda considers *agama* as prime source of valid knowledge. *Pratyaksha phala darsana* is the way to prove the validity of *agama*. *Pratyaksha phala darsana* is the result obtained in practical application.

EXCERPTS FROM CHIKITSAMANJARI - XXXIII

Unnikrishnan, P.*

Abstract: Discussion on *prameha* continues. Certain combinations of drugs used by the practitioners, are discussed. A gross diet regimen to be followed by a *prameharogi* is described, in which certain foods and activities are restricted.

27-28. Fine powder prepared from equal parts of the following, when consumed with honey relieves several types of *pramehas*.

<i>Katu</i>	<i>Terminalia chebula</i>
<i>Nelli</i>	<i>Phyllanthus emblica</i>
<i>Tanni</i>	<i>Terminalia bellerica</i>
<i>Vari</i>	<i>Asparagus racemosa</i>
<i>Lodhra</i>	<i>Symplocos laurina</i>
<i>Vizhal</i>	<i>Limonia accidissima</i>
<i>Maramanjai</i>	<i>Coscinium fenestratum</i>
<i>Manjal</i>	<i>Curcuma longa</i>
<i>Badaree-phalam</i>	<i>Ziziphus mauritiana</i> (seed)
<i>Katakam</i>	<i>Strychnos potatorum</i>
<i>Yashti-madhukam</i>	<i>Glycyrrhiza glabra</i>
<i>Khadiram</i>	<i>Acacia catechu</i>
<i>Pulibeejatol</i>	<i>Tamarindus indica</i> (seed's skin)
<i>Chandanam</i>	<i>Santalum album</i>
<i>Amritooral</i> ¹	<i>Tinospora cordifolia</i>
<i>Kanta</i>	<i>Magnet</i>

<i>Tuti</i>	<i>Elettaria cardamomum</i>
<i>Tokku</i>	<i>Cinnamomum verum</i> (bark)
<i>Sita</i>	Sugar
<i>Tuka (ooral)</i>	<i>Maranta arundinacea</i>
<i>Sevya</i>	<i>Vetiveria zizanioides</i>
<i>Aveerabeeja</i>	<i>Cassia auriculata</i> (seed)

Consumption of the medicines that reduce urine, when in excess will vitiate *vata* or *vatarakta*. At that juncture, *Vidaryadi kashaya* (Ashtangahridayam Su. 15/9-10) is indicated. However, the following drugs in *Vidaryadi kashaya* is to be excluded, as they are diuretic.

<i>Mutukku</i>	<i>Pueraria tuberosa</i>
<i>Tavizhama</i>	<i>Boerhaavia diffusa</i>
<i>Tekkata</i>	<i>Heliotropium indicum</i>
<i>Uzhunnu</i>	<i>Vigna mungo</i>
<i>Naykurana</i>	<i>Mucuna pruriens</i>
<i>Jeevakam</i>	<i>Malaxis acuminata</i>
<i>Edavakam</i>	<i>Malaxis muscifera</i>

This *kashaya* should be taken in the morning on empty stomach. *Kashaya* prepared

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¹ Preparation of *ooral*: The prescribed drug is ground well, dissolved in water, filtered and allowed to sediment in a vessel. When the sedimentation is complete, the supernatant liquid is discarded. The sediment is shade-dried and stored in airtight containers

from *suddhabalaka* (purified *Plectranthus vittiveroides*) should be taken after supper. *Ksheerabala* (Ashtangahridayam, *Vataraktachikitsitam*, 22/45) to which one-fourth ghee is added should be prepared and applied on the body. Medicated oils such as *Arukaladi* [Sahasrayogam, (Sujanapriyavyakhya), *Tailayogaprakaranam*, 14th yoga] shall be applied on head. Depending upon the condition of the patient, *triphaladi* (*katukka*, *nellikka*, *tanikka*) *kalka* shall also be used.

29. For the relief of *prameha*, the following finely powdered and mixed with honey should be consumed.

<i>Kamalaraja</i>	<i>Nelumbo nucifera</i> (stamens)	1 part
<i>Chinchaphala- valkam</i>	<i>Tamarindus indica</i> (seed's skin)	2 parts
<i>Mehari</i>	<i>Salacia reticulata</i>	4 parts
<i>Ambhojabeeja</i>	<i>Nelumbo nucifera</i> (seed)	8 parts

30-32.

<i>Paruthibeeja</i>	<i>Gossypium herbaceum</i> (seed)	
<i>Nellikka</i>	<i>Phyllanthus emblica</i>	
<i>Makkeerakkallu</i>	<i>Ferri sulphuratum</i>	
<i>Bhadra</i>	<i>Aerva lanata</i>	
<i>Rajani</i>	<i>Curcuma longa</i>	
<i>Pulibeejatol</i>	<i>Tamarindus indica</i> (seed's skin)	
<i>Ayaskantam</i>	Magnet	
<i>Murikkila</i>	<i>Erythrina variegata</i> (leaf)	
<i>Ekanayakam</i>	<i>Salacia reticulata</i>	each 1 part
<i>Aveerakkuru</i>	<i>Cassia auriculata</i> (seed)	18 parts

The above drugs, finely powdered should

be made to a paste with milk ground in *manjal* (*Curcuma longa*). Pills rolled from the combination should be dried in shade.

For the cure from 20 types of *prameha* this pill mixed with sugar and honey is to be ingested.

33. In the morning, a *kashaya* prepared from the following should be taken with a small quantity of honey for relief from all *pramehas*.

Triphala

<i>Katukka</i>	<i>Terminalia chebula</i>
<i>Nellikka</i>	<i>Phyllanthus emblica</i>
<i>Tannikka</i>	<i>Terminalia bellerica</i>

<i>Rajani</i>	<i>Curcuma longa</i>
<i>Njaval</i>	<i>Syzygium cumini</i>

Nalpamaram

<i>Atti</i>	<i>Ficus racemosa</i>
<i>Itti</i>	<i>Ficus microcarpa</i>
<i>Arayal</i>	<i>Ficus religiosa</i>
<i>Peral</i>	<i>Ficus benghalensis</i>
<i>Partha</i>	<i>Terminalia arjuna</i>
<i>Bhadra</i>	<i>Aerva lanata</i>
<i>Lodhra</i>	<i>Symplocos laurina</i>

A variation of the above *kashaya* where one-third or one-fourth quantity of *ekanayaka* (*Salacia reticulata*) is added is also effective.

Note: While preparing the variation, the total quantity of raw drugs should not exceed 48 gm.

34. A *kashaya* should be prepared from the following when cold, honey and *Adrijatootha choorna* (Bitumen powder) should be added to it and consumed for relief from all *pramehas*.

<i>Akuli</i>	<i>Cassia auriculata</i>
<i>Abda</i>	<i>Cyperus rotundus</i>

<i>Phalatraya</i>	
<i>Katukka</i>	<i>Terminalia chebula</i>
<i>Nellikka</i>	<i>Phyllanthus emblica</i>
<i>Tannikka</i>	<i>Terminalia bellerica</i>
<i>Dvirajane</i>	
<i>Rajane</i>	<i>Curcuma longa</i>
<i>Darvee</i>	<i>Coscinium fenestratum</i>
<i>Jambu</i>	<i>Syzygium cumini</i>
<i>Arjuna</i>	<i>Terminalia bellerica</i>
<i>Ksheerijatvak</i>	
<i>Atti</i>	<i>Ficus racemosa</i> (bark)
<i>Itti</i>	<i>Ficus microcarpa</i> (bark)
<i>Arayal</i>	<i>Ficus religiosa</i> (bark)
<i>Peral</i>	<i>Ficus benghalensis</i> (bark)
<i>Patha</i>	<i>Cyclea peltata</i>
<i>Kataka</i>	<i>Strychnos potatorum</i>
<i>Agnimandha</i>	<i>Premna corymbosa</i>
<i>Khadira</i>	<i>Acacia catechu</i>
<i>Ambasta</i>	<i>Cedrus deodara</i>
<i>Asana</i>	<i>Pongamia pinnata</i>
<i>Indradruma</i>	<i>Holarrhena pubescens</i> (seed)
<i>Varidhikotha</i>	<i>Sepiae officianalis</i>
<i>Kimsukasakhi</i>	<i>Erythrina variegata</i>

35. The following powder should be added to one *prastha** buttermilk and if consumed, the patient will be able to retain water that swells up in Periyar (a river in Kerala) i.e. the medicine is a potent anti-diuretic.

<i>Nellikka</i>	<i>Phyllanthus emblica</i>
<i>Manjal</i>	<i>Curcuma longa</i>
<i>Tettamparal</i>	<i>Strychnos potatorum</i>
<i>Amritu</i>	<i>Tinospora cordifolia</i>
<i>Karingali</i>	<i>Acacia catechu</i>
<i>Mehari</i>	<i>Salacia reticulata</i>
	each 1 part
<i>Aveerabeejam</i>	<i>Cassia auriculata</i> (seeds)
	6 parts

* 1 *prastha* = 1200 ml

The above medicine should be consumed in the morning.

36-37. During the initial stages of *prameha*, consumption of the medicated ghee detailed below is effective.

Kashaya prepared from the following, and an equal quantity of expressed juice of *nisa* (*Curcuma longa*) is added along with milk (as *drava*).

<i>Snuheemoolam</i>	<i>Euphorbia ligularia</i> (root)
<i>Arkamoolam</i>	<i>Calotropis gigantea</i> (root)
<i>Matulumga-moolam</i>	<i>Citrus medica</i> (root)
<i>Karanjavalkalam</i>	<i>Pongamia pinnata</i> (bark)

Ghee is used as *sneha* and the following are used as *kalka*.

<i>Ekanayakam</i>	<i>Salacia reticulata</i>
<i>Tiktakhya</i>	<i>Solanum anguivi</i>

A *kashaya* prepared from the following shall be taken.

<i>Kampipalaver</i>	<i>Mallotus philippensis</i> (root)
<i>Erukkinver</i>	<i>Calotropis gigantea</i> (root)
<i>Neermatala-tinver</i>	<i>Crataeva magna</i> (root)
<i>Unginver-meltoli</i>	<i>Pongamia pinnata</i> (bark)

Expressed juice from *pachamanjal* (*Curcuma longa*) shall be consumed. *Akulyadi ghritha* is also effective.

38-41. The *yoga* of *Akulyadi ghritha* is given below should be taken with the addition of sugar.

	A <i>kashaya</i> prepared from the following,
<i>Akuleebeeja</i>	<i>Cassia auriculata</i> (seed)
<i>Kataka</i>	<i>Strychnos potatorum</i>

<i>Paranteemoola</i>	<i>Ixora coccinea</i> (root)
<i>Ratri</i>	<i>Curcuma longa</i>
<i>Meharimoola</i>	<i>Salacia reticulata</i> (root)
<i>Amalaka</i>	<i>Phyllanthus emblica</i>
<i>Bhadra</i>	<i>Aerva lanata</i>
<i>Kimsukavalka</i>	<i>Erythrina variegata</i> (bark)
<i>Vrischeeva</i>	<i>Boerhaavia diffusa</i>
<i>Amsumateedvanda</i>	
<i>Orila</i>	<i>Desmodium gangeticum</i>
<i>Moovila</i>	<i>Pseudarthria viscida</i>
<i>Gokshura</i>	<i>Tribulus terrestris</i>

milk is used as *drava*, ghee as *sneha* and fine powder from the following as *kalka*.

<i>Vidaree</i>	<i>Ipomoea mauritiana</i>
<i>Mustha</i>	<i>Cyperus rotundus</i>
<i>Yashtyahva</i>	<i>Glycyrrhiza glabra</i>
<i>Chandana</i>	<i>Santalum album</i>
<i>Adrija</i>	Bitumen
<i>Gostana</i>	<i>Vitis vinifera</i>
<i>Urvarubeeja</i>	<i>Cucumis sativus</i> (seed)
<i>Chapala</i>	<i>Piper longum</i>
<i>Padma</i>	<i>Nervilia earinata</i>
<i>Pattoorakam</i>	<i>Alternanthera sessilis</i>
<i>Utpala</i>	<i>Kaempferia rotunda</i>
<i>Ela</i>	<i>Elettaria cardamomum</i>

This ghee is effective in relieving *prameha*.

42. Fine powder from the following, taken with buttermilk and honey is effective in clearing urine from sediments.

<i>Kimsukatvak</i>	<i>Erythrina variegata</i> (bark)
<i>Silajatu</i>	Bitumen
<i>Akulee</i>	<i>Cassia auriculata</i>

43. *Matsyakshimoola* (*Alternanthera sessilis*-root) mixed with buttermilk or *Satavarigulam* [*Sahasrayogam*, (Sujanapriyavyakhya) *Leha-yogaprakaranam*, 50th *yoga*] relieves burning

around the heart (acidity) and prevents sedimentation in urine.

44. *Nocake* should be dropped to boiling water and ground to a fine paste to which the following finely powdered are added and mixed thoroughly with milk. This paste should be applied on the body for relief from burning sensation.

<i>Ambu</i>	<i>Plectranthus vettiveroides</i>
<i>Kulir</i>	<i>Santalum album</i>
<i>Useeram</i>	<i>Vetiveria zizanioides</i>
<i>Tuka (ooral)</i>	<i>Maranta arundinacea</i>
<i>Amritu</i>	<i>Tinospora cordifolia</i>

The following should be ground to a fine paste, mixed with fresh buttermilk and with it irrigation below the neck shall be done for the relief of thirst and burning sensation.

<i>Tenginpookula</i>	<i>Cocos nucifera</i> (inflorescence)
<i>Chandanam</i>	<i>Santalum album</i>
<i>Nellikka</i>	<i>Phyllanthus emblica</i>

If necessary, it shall be applied on the head also. Irrigation with milk to which finely powdered *ellu* (Sesame seed) and *chandanam* (*Santalum album*) is added, relieves burning sensation. Finely powdered *sahasravedi* (*Ferula asafoetida*) and *irattimadhuram* (*Glycyrrhiza glabra*) mixed with buttermilk shall be applied on the head.

Ellu (sesame seed) and *karuka* (*Cynodon dactylon*) should be grounded to a fine paste mixed with raw (unboiled) milk and more butter. This paste shall be applied all over the head to relieve burning sensation. Blood letting is also effective in this condition.

45. Medicated oil termed *Arukaladi* applied on

the head relieves all *pramehas* and *kamila*. Its preparation is given below.

Expressed juice from the following is used as *drava*, sesame oil is used as *sneha* and *kadalikizhangu* (*Musa paradisiaca* - tubers) is used as *kalka*.

<i>Arukai</i>	<i>Eclipta prostrata</i>
<i>Amritu</i>	<i>Tinospora cordifolia</i>
<i>Kozhuppa</i>	<i>Portulaca oleracea</i>
<i>Doorva</i>	<i>Cynodon dactylon</i>
<i>Sakralata</i>	<i>Cardiospermum halicacabum</i>

Another medicated oil as variation from the above is also effective. Prepare this oil by expressed juices from the above drugs, milk as *drava*, *triphaladi* as *kalka*, $\frac{3}{4}$ oil and $\frac{1}{4}$ ghee as *sneha*. Otherwise *Tumgadrumbadi oil* [Sahasrayogam (Sujanapriyavyakhya), *Tailayoga-prakaranam*, 32nd *yoga*] can be used.

46. *Atumbuneyyu* (a ghee medicated by *atumbu* - *Ipomoea pes-caprae*) or *Lakshadi kuzhampu* [A *kuzhampu* prepared of *lakshadi* (Ashtangahridayam, *Uttarasthanam*, 2, 54-56)] shall be applied on regions where burning exists.

47. *Atambuvalli* (*Ipomoea pes-caprae* - a creeper with red flower), the whole plant should be used to prepare a *kashaya* to which, when lukewarm, *ceterneyyu* (precedent form of butter while churning the curd) is added and churned well. This relieves burning on application.

48. *Satavarigulam* shall be taken in the morning. Powdered *tettamparal* (*Strychnos potatorum* - seed) shall be consumed afterwards. Buttermilk shall be used for irrigation for relieving burning sensation, which is considered effective in *prameha*.

Kovaver (*Coccinia grandis* - root) ground in tender coconut water or *chempakapoo* (*Michelia champaca* - flower) ground in milk or *cherupoola* (*Aerva lanata*) ground in buttermilk shall be drunk.

49. *Ekanayakam* (*Salacia reticulata*) and *pachamanjal* (*Curcuma longa*) ground in buttermilk and made to a paste shall be consumed along with fresh buttermilk.

50. Medicated oil prepared from the *kashaya* of the following as *drava*, and powdered *eladigana* (a combination - Ashtangahridayam Su. 15/43-44) as *kalka*, on application relieves *pramehas* and *pidakas* (abscesses).

<i>Nisa</i>	<i>Curcuma longa</i>
<i>Useera</i>	<i>Vetiveria zizanioides</i>
<i>Bala</i>	<i>Sida rhombifolia</i> ssp. <i>Retusa</i>

The following medicated ghee of *chikkana paka* (Out of 3 *pakas*, the *paka* which is used in *vasti*, etc.) relieves *prameha*, *daha* (thirst), *ushna* (burning) and *pidaka* (abscess).

A *kashaya* prepared from the following

<i>Varattumanjal</i>	<i>Curcuma longa</i>
<i>Kuruntotti</i>	<i>Sida rhombifolia</i> ssp. <i>retusa</i>
<i>Ramacham</i>	<i>Vetiveria zizanioides</i>
<i>Nannari</i>	<i>Hemidesmus indicus</i>
	each 1 part

For *sneha*, $\frac{3}{4}$ part sesame oil and $\frac{1}{4}$ part ghee and drugs detailed in *eladigana* is used as *kalka*.

For *kashaya*, *nalpamaram* can also added.

Nalpamaram

<i>Atti</i>	<i>Ficus racemosa</i>
<i>Itti</i>	<i>Ficus microcarpa</i>

Arayal *Ficus religiosa*
Peral *Ficus benghalensis*

51. The *tavidu* (bran) from *navara* rice (*Oryza sativa*) and *Tintrineephalavalkala choornam* (powder of *Tamarindus indica* seed's skin) finely powdered and mixed together shall be consumed with a little sugar for relief of *prameha*.

The above powder should be mixed with *kashaya* of *nellikka* (*Phyllanthus emblica*) and taken with a little honey.

52. Medicated *kanji* prepared from the following to which *nocake* is added should be taken. This is effective in *prameha*.

Techiver *Ixora coccinea* (root)
Khadira *Acacia catechu*
Tartavalver *Spermacoce hispida* (root)
Moovilaver *Pseudarthria viscida* (root)
Sipha
Kozhuppa *Portulaca oleracea*
Bhadrika *Aerva lanata*
Mudga *Vigna munga*

53. *Brhmhana* (satiation) with foods and medicines that increases neither *medas* nor *mootra* is indicated. *Udvardana* (a type of massage) that is *rooksha*, strenuous exercise and keeping awake at night are desirable to the patient. Whatever that reduces *kapha* and *medas* are advised externally and internally.

54. The following are desirable to the patient.

Exercise, *thakra* (buttermilk), *sisirasana* (consumption of cold food, etc.), *mandavata* (gentle wind or zephyr), *salookakanda* (*Nelumbo nucifera* - tuber), *kumudodana* (*Nymphaea nouchali* - tuber), *mudgayoosha* (greengram soup), *patoora* (*Alternanthera sessilis*) *tiktagana* (a group of drugs/edibles that

are bitter in taste), *sigru* (*Moringa oleifera*), *madhooni* (different types of honey), *dhanva-mamsa* (meat of animals that live in dry climate)

55. *Dhatree* *Phyllanthus emblica*
Haridradvitayee
Haridra *Curcuma longa*
Darvee *Coscinium fenestratum*
Phalatravee
Katukka *Terminalia chebula*
Nellikka *Phyllanthus emblica*
Tannikka *Terminalia bellerica*
Laja *Nocake*
Amrita *Tinospora cordifolia*
Sailajatu *Bitumen*
Patolika *Trichosanthes cucumerina*
Sarngestika *Pongamia pinnata* (bark)
Khadiram *Acacia catechu*
Kaserukam *Cyperus esculentus*
Toyaprasadasti *Strychnos potatorum* (seed)

The above mentioned are good for the patient suffering from *prameha*.

56. The following are to be avoided in *prameha*.

Dadhi (dense curd), *ghrita* (ghee), *matsya* (fish), *mamsa* (meat), *gula* (jaggery), *pista* (edibles prepared from grinding the substances), *paya* (milk), *lavanam* (salt), *madhuram* (sweet), *rosonam* (garlic), *sarshapa* (*Brassica nigra*), *divasayanam* (sleep during day), *suratam* (sexual intercourse), *maricha* (pepper), *nalikerajala* (coconut water), *visvamahasantha* (feast) and *himgu* (*Ferula asafoetida*).

57. *Poovanpazham* A variety of banana
Prithukam Parched rice
Appam A sweet preparation by paste of rice and *guda* fried in oil.

<i>Ada</i>	A preparation in which rice and <i>mudga</i> are added and made hot by adding little oil.
<i>Tenga</i>	<i>Cocos nucifera</i> (fruit)
<i>Chakkakkuru</i>	<i>Artocarpus heterophyllus</i> (fruit seed)
<i>Brihateephala</i>	<i>Solanum melongena</i> (fruit)
<i>Khalva</i>	<i>Macrotyloma uniflorum</i>
<i>Masha</i>	<i>Vigna mungo</i>
<i>Kizhangu- vargangal</i>	Tubers in general
<i>Tal</i>	
<i>Chama</i>	<i>Panicum sumatrense</i> (tuber)
<i>Chempu</i>	<i>Colocasia esculenta</i> (tuber)
<i>Kadi</i>	first washing of rice

These are also to be avoided.

58-60. The following finely powdered should be fried in the mixture of oil and ghee in a pan. Afterwards *Eladichoorna*, one-fourth the quantity of the powder should be mixed, churned in it and the mixture should be applied on the body for the relief of burning sensation, wasting and pallor. This mixture termed *lakshadi* will also provide strength to the body.

<i>Arakku</i>	<i>Cateria lacca</i>
<i>Uzhunnu</i>	<i>Vigna mungo</i>
<i>Payar</i>	<i>Vigna unguiculata</i> ssp. <i>Cylindrica</i>
<i>Asvagandha</i>	<i>Withania somnifera</i>
<i>Tuka (ooral)</i>	<i>Maranta arundinacea</i>
<i>Sudha</i>	<i>Phyllanthus emblica</i>

61. The following *kashaya*, consumed with honey relieves *prameha*, thirst, burning sensation, *jvara* and *arochaka*.

*1 *aksha* = 45 gm

<i>Ghana</i>	<i>Cyperus rotundus</i>
<i>Chandanam</i>	<i>Santalum album</i>
<i>Ekanayakam</i>	<i>Salacia reticulata</i>
<i>Ambu</i>	<i>Plectranthus vettiveroides</i>
<i>Parpata</i>	<i>Hedyotis corymbosa</i>
<i>Useera</i>	<i>Vetiveria zizanioides</i>
<i>Gudoochi</i>	<i>Tinospora cordifolia</i>
<i>Amalaka</i>	<i>Phyllanthus emblica</i>

62. *Chandana* (*Santalum album*) should be consumed, mixed with *tandulambu* (first washing from rice), a small quantity of sugar and honey for the relief of burning, thirst and haemorrhage.

63-64. It is stated that a person who indulges in incest (sexual relationship with mother, sister, etc.) in previous birth or present, as a result of his *papa* is destined to suffer from *prameha*. Here, for the relief from *papa* one is to give *Ellu* (sesame), land and gold, recite the *nama* (name) of Lord *Vishnu*, construct ponds, wells and serve *tanneerpantal* (potable water) to the public.

65. The following complications in a *pramehi* foretell death.

1) Excessive thirst, 2) excessive burning, 3) abscesses that don't heal, 4) *mamsakotha* (stale abscesses) and 5) *atisara* (diarrhoea).

Tatakasukti (meat of shell fish) cooked should be taken with honey. When *prameha* becomes very severe, *Dhanvantara ghritha* shall be consumed as a life saving measure.

66-67. The following finely powdered and *Abhrakasindoora* should be ground to a paste in milk and pills in the size of one *aksha** shall be rolled. This pill when taken in the morning

with buttermilk sends *prameha* crying, off to forests.

Mukka

Katukka Terminalia chebula

Nellikka Phyllanthus emblica

Tannikka Terminalia bellerica

Venkunni Abrus precatorius

Velampaya

Kulir Santalum album

Vilar Limonia accidissima

Cheera Amaranthus spinosus

Pacchandi Mangifera indica
(fruit seed)

Kantam Magnet

Muttenga Cyperus rotundus

Patha

Tettamparal

Arayalvittu

Aveerabeeja

Kittam

Mehantam

Eentalkuru

Musali

Karingalikatal

Ambalari

Thakkolam

Nal Pulinthol

Paruthibeeja

Cyclea peltata

Strychnos potatorum

Ficus religiosa (seed)

Cassia auriculata (seed)

Ferreso fernic oxide

Salacia reticulata

Phoenix pusilla (seed)

Curculigo orchioides

Acacia catechu

Nymphaea nouchali (seed)

Illicium verum

Tamarindus indica
(seed's skin)

Gossypium herbaceum
(seed)

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स्नेहपाक की विधि शंकुणि वारियर, ई.

Abstract: Oil application on the body in certain conditions is a practice commonly advised by *vaidyas*. But major care should be taken while preparing the medicated oil in the classical way. Selection of utensils, duration of cooking etc. are detailed here. This article by E. Sankunni Varier, published in Dhanwantary (Vol. 13, No. 12) is reproduced here in translation.

तेल, घी जैसे स्नेहों का पाक करते समय विशेष ध्यान रखना पड़ता है। अगर वह प्रक्रिया ठीक न रहे तो रोग का शमन नहीं होगा वरन् वह खुद रोग का कारण बन जायेगा। स्नेहों में द्रव और कल्क मिलाने की बात पर काफी मतभेद हैं। अनुभवी और ज्ञानसंपन्न वैद्यों के सुझाव के अनुसार ऐसी बातें युक्तिसंगत ढंग से करना उचित होगा।

अगर स्नेहपाक के लिए स्वरस का उपयोग करते हैं तो उसका क्रम इस प्रकार होगा। पहले एक पल¹ दवा लेकर पीसना है। फिर उसमें चार पल पानी मिलाकर अच्छी तरह मसलकर छानना है। अगर वह कषाय है तो एक पल दवा में दो नाष्त्रि² पानी मिलाकर ¼ भाग शेष रहने तक उबालना है। फिर उसे ¼ के अनुपात में निचोड़कर पीसना है और उसके बाद उसे मिलाना है। स्नेहों का पाक करने का समय जब ठीक ठीक निर्धारित नहीं किया गया है तब कल्क जोड़ने में इस विधि का पालन कर सकते हैं। कल्क का चौगुना स्नेह और स्नेह का चौगुना द्रव लेना है। इसके बारे में और एक मत सुलझाया गया है। अगर स्वच्छ जल मिलाकर गरम

करनेवाला स्नेह है तो उसमें स्नेह का ¼ भाग कल्क मिलाना है। अगर कषाय मिलाकर गरम करते हैं तो स्नेह का ¼ भाग कल्क होना चाहिए। अगर वह स्वरस है तो ¼ भाग कल्क होना चाहिए। साधारणतया एक नाष्त्रि स्नेह में चार नाष्त्रि द्रव और चार कषत्रु कल्क मिलाकर गरम करते हैं। घृतवाला कषाय मिट्टि या काँसे के बर्तन में बनाना चाहिए। तेलवाले कषायों के लिए यही बर्तन ठीक है। घी वाले कषाय बनाते समय ताँबे के बर्तन का उपयोग न करें। कषाय में मिलाती चीजों के पाक के बारे में शास्त्र में एक क्रम बताया गया है। अगर वह सार हैं तो 12 दिन लगेंगे। बेलों के लिए तीन दिन चाहिए। जड़ों के लिए सात दिन लगेंगे। पत्ते हैं तो एक दिन काफी है। कंद, मूल के लिए दो दिन चाहिए। छिलके हैं तो चार दिन होना चाहिए। याने इतने दिनों तक इन चीजों को कषाय में पकाना चाहिए। पाँच या छह दिन कषाय में पकाने पर हर चीज का वीर्य कषाय में घुल मिल जायेगा। छठे दिन में उसमें चीजों को निचोड़ - पीसकर मिला सकते हैं। तेल में कल्क तोड़-पीसकर डाल

अनुवाद: डॉ. आरसु, कालिकट विश्वविद्यालय, केरल

1 एक पल = 48 g, 2 एक नाष्त्रि = 300 ml, 3 एक कषत्रु = 4.86 g.

सकते हैं। घी में उसे पीस पीस कर डालना होगा।

“तैलस्य कल्कं संचूर्ण्य बुधसमार्ज्ययोजयेत् ।
घृतस्य कल्कं मतिमान् जर्जरीकृत्य योजयेत् ॥
अमर्दितं तैलकल्कमचक्षुष्यं भवेन्नृणाम् ।
मर्दितं घृत कल्कं च तेजो धातुक्षयं भवेत् ॥”

कल्क डालने के बाद पाँच दिन स्नेह को गरम करके उसकी छलनी करनी चाहिए। फिर लाजा, उडद, कुलथी, मूँग, प्याज, सोंठ, यव आदि कषाय में मिलाना है तो यथावसर उसे गरम करके गाढ़ा बनाना चाहिए। किसी कारणवश तुरंत मिलाना संभव न बनें तो वह एक दिन से ज्यादा न रखें। दूध मिलाये तो दो दिन रखें। स्वरस में है तो तीन दिन चाहिए। कषाय में है तो पाँच दिन पड़े रहना चाहिए। किन्तु गुड़ मिलाया कषाय है तो बीस दिन वह स्नेह में पड़ा रहना चाहिए।

“क्षीरं द्विरात्रं स्वरसे त्रिरात्रं स्नेहः
कषायेषु च पञ्चरात्रम् ।
गुठेन युक्तेषु तथाखिलेषु विंशद्दिनं
पाकविधिक्रमस्यात् ॥”

घी को पाक करते समय जब उसका झाग शांत हो जायेगा तब उसे अंगीठी से उतार रखकर छलनी करें। तेल है तो झाग आते वक्त उसे अंगीठी से उतार रखकर छलनी

करना जरूरी है।

स्नेह पाक के तीन प्रकार होते हैं जैसे मन्द, चिक्कण और खरचिक्कण। स्नेह में मिलाये कल्क पर थोड़ासा पानी छिड़काकर फिर उसे पीसकर गोलाकार में तैयार करना है। यों तैयार करते समय हाथ पर वह चिपक न जाये तो वह पाकविधि को मन्द कहते हैं। जमा गये ‘पराफिन’ के समान बनाने की विधि को चिक्कण कहते हैं। ठोस और छूने पर बिखट जाने की स्थिति को खरचिक्कण कहते हैं। इन क्रमों से अधिक पाक जाये तो वह स्नेह उपयोगी न होगा। पकाने के पहले छलनी किये गये स्नेह का उपयोग करें तो अग्निमान्द्य की बीमारी होगी। नस्य में प्रयुक्त सारे स्नेह मृदुपाक स्थिति का होना चाहिए। वस्ति वाला स्नेह चिक्कण पाक का होना चाहिए। प्राचीन काल के वैद्यों की राय है कि खरपाक कफ का नाश करेगा। मृदुपाक पित्त का नाश करेगा और चिक्कण सारे दोषों को मिटायेगा।

विषवृक्ष की लकड़ी जलाकर कदापि पाक न करें। ऐसा करें तो औषध में भी वह विषवीर्य व्याप्त हो जायेगा। आँख के औषधों के मामले में इस बात का विशेष ध्यान रखना चाहिए। यों पाक करके बनानेवाले स्नेह आदि सद्यफल ही प्रदान करेगे।

नवनीत शंकुणि वारियर, ई.

Abstract: Advising to consume butter (*navneeta*) by *vaidyas* on certain condition is a practice in ayurveda. A better evaluation of the *navneeta* is discussed here. This article by E. Sankunni Varier, published in Dhanvathari (Vol. 16, No. 10) is reproduced here in translation.

हमारे शरीर को पुष्ट बनाने में नवनीत जैसी श्रेष्ठ और हृद्य चीज बिरले ही मिलेगी। बालक, युवक और बुजुर्ग की कोटि में आनेवालों को यह समान रूप से उपयोगी है। नियमित रूप से नवनीत खानेवाले दुबले पतले लोगों का शरीर अल्प काल की अवधि में दृढ़ बन जायेगा। उनका ओज बढ़ जायेगा। बच्चों के आहार में शुरू से नवनीत को भी शामिल करें तो उन्हें ग्रहणी, शोष और आँख की बीमारियाँ नहीं आयेंगी। इतना ही नहीं यौवनारंभ में ही वे प्रतिभाशाली और सुन्दर बन जायेंगे। किन्तु नवनीत के उपयोग का क्रम भी ठीक होना चाहिए। एक दिन पहले शाम को दूध जमाकर अगले दिन मथकर लिया नवनीत ही इसके लिए ठीक रहेगा। यों तैयार नवनीत को 'हैयंगवीनम्' कहते हैं। यह गुण में लघु है। सौन्दर्य को बढ़ानेवाला चीज है। इसका स्वाद मीठा, कसैला, खट्टा मिश्रित होगा। यह शीतवीर्य का चीज है। इससे बुद्धि और जठराग्नि बढ़ जायेंगी। यह पसंद की चीज है। इससे मल बंध होगा। वात और पित्त मिट जायेंगे। यह शुक्ल को बढ़ायेगा। क्षय, खासी, श्वास की कठिनाई, बवासीर और अर्दित आदि बीमारियों

को भी इससे शान्त हो जायेंगी।

अष्टाङ्गहृदय जैसे ग्रन्थों में द्रव्यों के गुणों का प्रकरण आता है। उधर यह बात प्रतिपादित नहीं हुई है कि नवनीत को गुरु माना है या लघु। पहली बार सनते ही कई लोग इसे गुरु मानते आये हैं। सुश्रुत के आशय पर भी कुछ लोगों को यह संदेह हुआ है। उधर "नवनीतं पुनः सद्यस्कं लघु" बताया गया है। यह निर्णय शायद युक्तिसंगत होगा। क्योंकि शीतवीर्य का द्रव्य स्तम्भन और अग्निमान्द्य का कारण बन जायेगा। फिर भी लघुत्व के बिना कदापि अग्नि गुणकारी नहीं बन जायेगा। तब भी यह शंका आ सकती है कि लघुत्व और शीतवीर्यवाला द्रव्य वातवर्धक नहीं बन जायेगा। किन्तु स्नेहांश शामिल होने के कारण यह वातहारी बन गया होगा। वातनाशक मधुररस को भी इसमें प्रमुखता मिलती है।

अब और एक बात पर सोचना है। गुरु गुण के परिणाम वृष्यता और बलवर्णकरत्व आदि विचारणीय हैं। ये गुण गुरुत्व के कारण नहीं मिले हैं। मानना होगा कि यह मधुर रस के कारण आता है।

अनुवाद: डॉ. आरसु, कालिकट विश्वविद्यालय, केरल

“.....मधुरो रसः ॥
आजन्मसात्म्यात्कुरुते धातूनां प्रबलं बलम् ।
बालवृद्धक्षतक्षीणवर्णकेशेन्द्रियौजसाम् ॥
प्रशस्तो बृंहणः कण्ठ्यः स्तन्यसन्धानकृदुरुः ।
आयुष्यो जीवनः स्निग्धः पित्तानिलविषापहः ॥”
(अ.ह.सू. 10/6-8)

इस पाठ से ही बात स्पष्ट हो जाता है। भले ही इसके आधार पर गुरुगुण मिला है, इसके पास लघुत्व ही है। इसी को प्रभाव कहते आये है।

इसके अतिरिक्त हमें इस बात पर भी सोचना है कि क्या पुराना मखन उपयोगी है। अष्टाङ्गहृदय, संग्रह आदि

ग्रन्थों में इसका गुणनिरूपण नहीं मिलता है। किन्तु सुश्रुत में एक उल्लेख यों मिलता है।

“चिरोत्थितं गुरु, कफमेदोविवर्धनं बलकरं बृंहणं शोषघ्नं विशेषेण बालानां प्रशस्यते ।” कुछ और विद्वानों कि राय है कि मखन जितने दिनों तक पुराना होते है उतना ही वह हानिकारक है। उसके उपयोग से कोढ़ आने की संभावना है। यों विशेषण करते समय ये दो अभिमत परस्पर विरोधी हैं। किन्तु इन में एक ही उनका आशय होगा। चिरोत्थित शब्द का अर्थ विचारणीय है। वह पुराने दही से बनाया होगा। यही मखन पुराने होने के बाद उपयोग करने से कोढ़ जैसा रोगों का कारण होता है। यही उनका आशय होगा।

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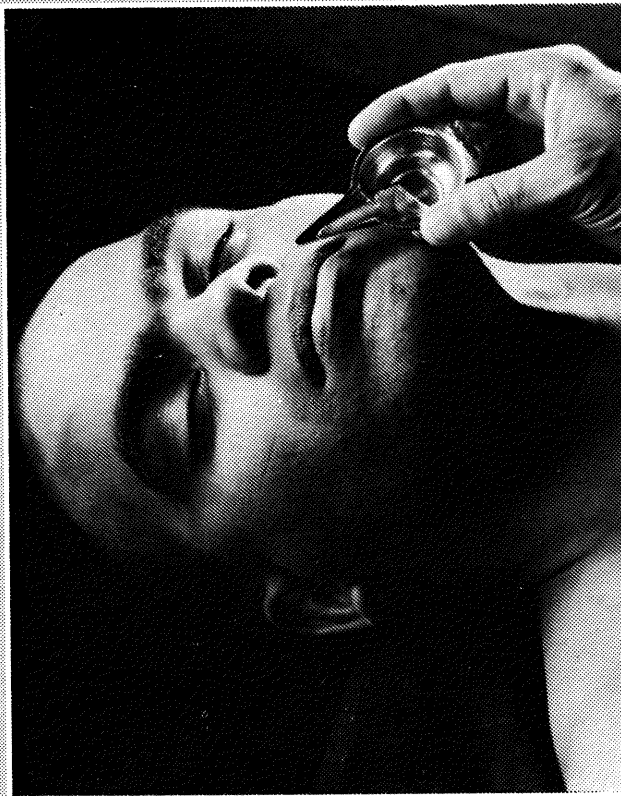
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*Printed at the Mathrubhumi M.M.Press and published by Aryavaidyan P.K.Warrier, Managing Trustee
Arya Vaidya Sala, Kottakkal for and on behalf of Arya Vaidya Sala, Kottakkal.*

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.

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